149. Emmons (C. W.), Lie-Kian-Joe, Njo-Injo Tjoei Eng, Pohan (A.), Kertopati (S.), & Van Der Meulen (A.). **Basidiobolus and Cercospora from human infections.**—*Mycologia*, **49**, 1, pp. 1–10, 4 fig., 1957.

The 2 cases of *B. ranarum* infection have already been noticed [**2**, No. 2153].

The 3rd case is of a fungus infection causing severe verrucous lesions on the face of a 12-year-old Indonesian boy. These consisted of discrete and confluent, bluish-red, flat to cauliflower-like areas of induration. The nasal mucosa was also affected and there was perforation of the septum. There was no fever or enlargement of lymph nodes. From the parents' account the infection, which was of many years' standing, had begun as a small nodule on the left cheek. Brown-walled fungal hyphae, 4–8 $\mu$ diam. and with frequent septation, were found in all of 8 biopsy specimens taken at different times, and culture on cornmeal agar and Sabouraud's agar yielded a species of *Cercospora* compatible in its morphology and spore dimensions with *C. apii*. Leaf spots developed when the fungus was inoculated on to leaves of lettuce, tomato, and potato, but there were apparently no controls, for the authors state that 'the possibility that wild *Cercospora* spores were already present on the leaves of the experimental plants and gave rise to the lesions cannot be excluded'. Attempts at therapy [unspecified] failed. The organism was not pathogenic for mice.

[Lie-Kian-Joe, Njo-Injo Tjoei Eng, & Sartono Kertopati (A new verrucous mycosis caused by *Cercospora apii*.—*Arch. Derm. Syph., Chicago*, **75**, 6, pp. 864–870, 13 fig., 1957) give another clinical and histopathological account of this last case with a mycological report by C. W. Emmons and state that 1 experimental self-inoculation with conidia induced a slightly raised brownish papule which after 4 months slowly regressed. C. Chupp (The possible infection of the human body with *Cercospora apii*.—*Mycologia*, **49**, 5, pp. 773–774, 1957) disagrees with the identification *C. apii*.]

150. Ciferri (R.), Chaves Batista (A.), & Campos (S.). **Isolation of Schizophyllum commune from a sputum.**—*Atti Ist. bot. Univ. Pavia*, Ser. 5, **14**, 1–3, pp. 118–120, 1 fig., 1957. [Portuguese summary.]

The authors record the isolation from the sputum of a 30-year-old white male in Recife, Brazil, of a fungus which in cultural characters closely resembled *S. commune*.

151. Batista (A. C.), Maia (J. A.), & Singer (R.). **Basidioneuromycosis on man.**—*An. Soc. Biol. Pernambuco*, **13**, 2, pp. 52–60, 1955.

A detailed report is given of the clinical findings in the case of a 24-year-old male exhibiting mental dullness and endocranial hypertension without signs of meningitis. Electroencephalograms suggested a brain lesion, and cultures of the cerebrospinal fluid yielded mycelia of a basidiomycete at the first examination and again after 4 months.

In culture on potato dextrose and malt agars the fungus produced soft lamellate carpophores, the lamellae having a double structure which might be interpreted as showing affinity with *Schizophyllum*. Examination by G. W. Martin of Iowa State University revealed homobasidia with 4 sterigmata, bearing thick-walled, smooth, apparently sclerotized spores containing a single oil droplet and having an appendage recalling that on basidiospores of the gasteromycete *Bovistella*. There were few clamp connexions. Work is in progress on the identity and pathogenicity of this fungus.

152. Moreira-Jacob (M.) & Van Uden (N.). **Mycotic abortion in cattle. A case record and a review of the relevant literature.**—*Brit. vet. J.*, **112**, pp. 453–461, 1956.

A case of mycotic abortion [see below] is reported from the Dept of Microbiology, University of Lisbon, in which a 6-year-old cow in a *Brucella*-free herd aborted in the 4th month of pregnancy. The foetus showed no lesions but *Aspergillus niger* was isolated in pure culture from the stomach contents. The cow had also aborted in the previous pregnancy.

153. Austwick (P. K. C.) & Venn (J. A. J.). **Routine investigations into mycotic abortion.**—*Vet. Rec.*, **69**, 18, pp. 488–491, 8 fig., 1957.

One-year surveys to assess the frequency of mycotic abortion in cattle [see above and cf. **2**, No. 1702] were undertaken in 1955 at the Veterinary Investigation Centre, Bristol, and the Veterinary Laboratory, Weybridge, involving the examination of material sent in from western and southern counties, respectively.

Foetal stomach contents were examined macroscopically and microscopically for the presence of hyphae. The amniotic fluid was also examined where complete foetal membranes were available, and the cotyledons searched for hyphae by means of crush preparations. Skin lesions were examined directly for hyphae by mounting small pieces in saline or cotton blue. Portions of skin, stomach wall, and necrotic cotyledons were fixed in 10% formol saline for further study. Malt extract agar (pH 5·5) was used in the cultural studies.

The main criteria for a positive diagnosis were the presence of hyphae in the foetal stomach contents and necrotic cotyledons: the isolation of a fungus in pure culture; and the absence of bacterial agents of abortion. Of the total of 23 cases at Weybridge 15 were associated with *Aspergillus fumigatus*, 6 with mucoraceous fungi (3 being *Absidia ramosa*), and 1 each with *Candida tropicalis* and a basidiomycete (? *Polystictus versicolor*): at Bristol 14 were associated with *A. fumigatus* and the remaining 4 with mucoraceous fungi (*A. ramosa* in 1). There was close correspondence between the numbers of fungus-infected foetuses at the two centres (7·1% of the total at Weybridge; 6·4% at Bristol), despite small differences of technique, and good agreement with Plum's finding of a 5·9% rating of fungal infection in placentae (*Acta path. microbiol. scand.*, **9**, pp. 150–157, 1932).

In a recent 5-year survey at Weybridge 75% of bovine abortions remained unexplained. If mycotic abortion accounted for only 5% of the total it would have very considerable economic importance.

154. Holtenius (P.) & Nielsen (N.). **On the occurrence of nitrate and nitrite reducing fungi in the rumen of Sheep.**—*Nord. VetMed.*, **9**, 3, pp. 210–213, 1957. [German and Swedish summaries.]

At the Royal Veterinary College, Stockholm, fungi were isolated from the rumen of 21 of 23 sheep examined. Species of Mucoraceae predominated in 18, accompanied in 6 by other fungi. Identification was difficult owing to the rapid growth of the Mucoraceae, but *Absidia ramosa*, *Geotrichum candidum*, and *Fusarium* sp. are known to have been present. They grew in the form of yeast-like cells in 2 nutrient solutions, containing potassium nitrate and ammonium sulphate, respectively, as sources of N.

155. Rich (M. A.) & Stern (A. M.). **The pathogenicity of Dematium nigrum for mice.**—*Canad. J. Microbiol.*, **3**, 4, pp. 607–610, 1 graph, 1957.

At Rutgers University, New Brunswick, New Jersey, *D. nigrum*, a common laboratory contaminant, was found to produce a neurological syndrome in mice, intravenous injection of a suspension of the organism causing a fatal hemiparesis of the right side. Death usually ensued 6–10 days after inoculation, and the

organism was recovered from the brains (only) of the affected animals. As 3 of 4 strains tested proved fatal, there would appear to be need for care when handling this contaminant.

156. Piantoni (L.). **'Patogenicità da massa' di un micete avirulento (Torulopsis utilis).** ['Mass pathogenicity' of an avirulent fungus (*Torulopsis utilis*).]—*Biol. latina*, **8**, 4, pp. 1155–1192, 14 fig., 1955. [Spanish, French, English, and German summaries.]

Piantoni (L.) & Boselli (G.). **Il quadro sieroproteico all' analisi elettroforetica su carta in Conigli sottoposti a plurime infettanze con un fungo apatogeno.** [The seroprotein picture obtained on paper electrophoretic analysis of Rabbits exposed to repeated infection with a non-pathogenic fungus.]—*Biol. latina*, **8**, pp. 1–8, 10 graphs, 1955. [French and English summaries.]

At the Institute of Anatomy and Pathological Histology, University of Milan, rabbits in three groups were inoculated with (*a*) living cells of *T. utilis*; (*b*) heat killed cells; and (*c*) cells lysed by exposure to toluol vapour. Group A tolerated an inoculum of up to $6 \times 10^9$ cells without apparent injury, though higher doses were lethal. Group B recovered rapidly after transient symptoms including dyspnoea. Group C was unharmed, even by doses as high as $45 \times 10^9$ lysed cells.

The 2nd paper records a marked increase of gamma globulin (up to 300%) in rabbits subjected to repeated experimental infection with *T. utilis*.

157. Heim (R.). **Sur un cas d'empoisonnement mortel causé au Mexique par l'Amanita bisporigera Atk.** [On a case of fatal poisoning caused by *Amanita bisporigera* Atk. in Mexico.]—*Rev. Mycol., Paris*, **22**, 2, pp. 208–216, 1 col. pl. (after p. 255), 1957.

The author interrogated an Indian living at the Rancho del Paraiso, near San Antonio, Mexico, who, with his family, had eaten fungi found growing near *Coffea* trees and not far away from oaks near the ranch. About 15 hr. later the 3 children were taken ill, after about 20 hr. the wife, later the Indian himself. The children and the wife died; the man was saved by heavy injections of physiological saline. Shortly after the interview the author found north of Oaxaca in an oak planting near Tejotepec, at an altitude of 2,200–2,250 m., a fungus agreeing perfectly in appearance with the oral description given by the Indian. The agaric, which was identified as *A. bisporigera*, is briefly described.

158. Heim (R.). **Notes préliminaires sur les Agaric hallucinogènes du Mexique.** [Preliminary notes on the hallucination-producing Agarics of Mexico.]—*Rev. Mycol., Paris*, **22**, 1, pp. 58–79; **22**, 2, pp. 183–207, 1957.

In the 1st and 2nd notes (pp. 58–70) accounts are given of hallucination-producing species of agarics eaten by Indians during magical ceremonials in central and southern Mexico and sent to the author by R. G. and Mme Valentina P. Wasson from New York, who collected them during travels to Mexico during 1953–55. In July and Aug. 1956 the author accompanied these travellers on a further expedition to Mexico, and in the 3rd and 4th notes (pp. 70–79) describes as new 5 of these fungi, *Psilocybe mexicana* Heim, *P. zapotecorum* Heim, *P. aztecorum* Heim, *P. caerulescens* var. *mazatecorum* Heim, and *P. caerulescens* var. *nigripes* Heim. [Coloured illustrations of these appear in a popular article in *Life* (International Edition), **22**, 12, pp. 44–60, 1957.]

In the 5th part, by Heim & R. Cailleux (pp. 183–189), descriptions are given of 4 hallucination-producing agarics grown in Paris from spores sent from Mexico, both in the pure culture and in pots of compost. The results were good with *Stropharia cubensis* and *P. mexicana*, favourable with *P. caerulescens* var. *mazatecorum*, and positive but incomplete with *P. zapotecorum*. In the final section Dr. Heim gives

a full account of the psycho-physical effects he experienced after eating (in Paris) 5 fresh carpophores of *S. cubensis*, several of *Psilocybe caerulescens* var. *mazatecorum* (in Mexico), and (in Paris) 32 freshly grown fruit bodies of *P. mexicana*. The effects resembled those described for mescaline by Aldous Huxley.

[These five parts have also appeared in *C.R. Acad. Sci., Paris*, **242**, pp. 965–968, 1956; **242**, pp. 1389–1395, 1956; **244**, pp. 695–700, 3109–3114, 1957; **245**, pp. 597–603, 1957.]

159. Werch (S. C.), Oester (Y. T.), & Friedemann (T. E.). **Kojic acid—a convulsant.**—*Science*, **126**, 3271, pp. 450–451, 1957.

Kojic acid [a metabolic product of *Aspergillus flavus-oryzae* group] proved toxic when introduced parenterally into mice, guinea-pigs, rabbits, and dogs. In dogs, at 200–500 mg./kg., toxic manifestations were similar in some respects to the clinical phenomena of epilepsy.

160. Goldin (M.), Libretti (A.), Hoffman (Ann), & Kaplan (M. A.). **Studies on antibodies to yeasts in bronchial asthma.**—*Ann. Allergy*, **15**, 2, pp. 119–127, 1 fig., 1957.

It is reported from the Mount Sinai Medical Research Foundation and the Chicago Medical School that the use of sheep erythrocytes sensitized with an alcohol-insoluble fraction of *Candida albicans* as a haemagglutination technique elicited more specific reactions in rabbits than a method in which yeast cells were employed as the antigen. No evidence was forthcoming that antibodies against either *C. albicans*, *Geotrichum* sp., or the saprophytic yeasts *Saccharomyces cerevisiae* and *C. krusei* were 'blocking' or 'incomplete' in nature in either immune rabbit or human serum [cf. **1**, No. 322].

No important difference in agglutinins could be detected between chronic bronchial asthma patients, harbouring *C. albicans* in the sputum, and normal subjects [cf. **1**, Nos. 961, 962; **2**, No. 2110].

Discussing the significance of these observations in relation to bronchial asthma, the authors conclude that *C. albicans* and *G.* sp. cannot ordinarily be incriminated as agents in the causation of the disease on the basis of present evidence.

161. Le Coulant (M. P.) & Lopès (Mlle G.). **Asthme endémique régional par sensibilisation à l'Ustilago.** [Regional endemic asthma due to sensitization to *Ustilago*.]—*J. Méd. Bordeaux*, **134**, 9, pp. 1094–1098, 1957.

Case histories are given, from the Allergy Laboratory of the Children's Hospital, Bordeaux, of 5 adults, suffering from summer asthma, who were shown to be sensitized to the spores of the maize smut (*U. maydis*). The asthma was cured by specific desensitization with an extract of the fungus, activated by histamine and tannins. The allergen was a volatile, non-protein substance of small molecular size. All the patients lived in the plains of the Gironde basin, where maize has been the staple crop for generations, and where the marshy nature of the terrain is particularly favourable for maize smut.

162. Williams (D. I.) & Mulhall (P. P.). **Farmer's lung in Radnor and North Breconshire.**—*Brit. med. J.*, 5003, pp. 1216–1218, 1956.

From Brecon Chest Clinic the authors report 10 cases of farmer's lung [**2**, No. 253], observed within 4 months early in 1955. All developed the disease after exposure to dust-laden air in cow-houses and hay-barns during the hand-feeding of cattle, and all lived in hilly districts of mid-Wales where rainfall and humidity are high. No relationship was observed between fungi found in the sputum and those grown from corresponding specimens of hay, and this was considered as evidence that the condition is not a true broncho-mycosis. Potassium iodide relieved the symptoms; X-ray changes took at least 3 months to clear.

163. Jillson (O. F.). **Allergic dermatitis produced by pathogenic and saprophytic fungi.**—*Ann. Allergy*, **15**, 1, pp. 14–24, 1957. [54 refs.]

At the Hitchcock Clinic, Hanover, New Hampshire, a study was made of the role of dermatophytes and airborne saprophytic moulds in allergic skin diseases. Some cases of dermatitis due to saprophytic moulds showed a definite seasonal history and intradermal skin tests and patch tests were used to confirm clinical impressions. The choice of fungi used in hyposensitization therapy depended on the types of airborne spores predominant in the locale of the patient, and in this survey the most commonly encountered fungi were yeasts, and species of *Alternaria, Cladosporium, Aspergillus, Penicillium, Pullularia,* and *Mycelia Sterilia.*

164. Johnson (Mary C.) & Hampton (S. F.). **Studies in allergenicity of extracts prepared from sporulating and nonsporulating Alternaria tenuis.**—*J. Allergy*, **28**, 2, pp. 170–178, 3 fig., 1957.

Extracts from cultures of both sporulating and non-sporulating *A. tenuis* were prepared by the University of Texas and by the Division of Immunology, Washington University School of Medicine. Each group employed a different technique for extraction. The activity and cross-reactivity of both sets of extracts were compared by measuring their capacity to inhibit the reactivity of skin sensitizing antibody, using *in vitro* mixtures of extract and human serum. The extracts from each culture neutralized to themselves but cross neutralization was not consistent.

165. Green (H. L.) & Lane (W. R.). **Particulate clouds : Dusts, smokes, and mists.** —Pp. xix+425, 107 fig., 8 pl. (London: E. & F. N. Spon), 1957. 70*s.*

As stated in the preface 'many different types of cloud have essentially the same properties', hence the relevance of this work to those interested in air-borne fungus spores. The first half of the book is devoted to basic principles and techniques, the second to applications to industry and the environment.

166. Gregory (P. H.). **Electrostatic charges on spores of fungi in air.**—*Nature, Lond.*, **180**, 4581, p. 330, 1 fig., 1957.

Tests made during 1954–5 showed most freshly discharged spores of *Ganoderma applanatum, Agaricus campestris, Pholiota squarrosa,* and *Flammula carbonaria* to carry a positive charge. On the other hand, negative charges seem to predominate on basidiospores of *Coprinus micaceus, C. hiascens* and *Polyporus squamosus.*

167. **Aerobiology.**—*Nature, Lond.*, **179**, 4566, pp. 890–892, 1957.

In the course of a symposium on aerobiology held under the auspices of the Linnaean Society of London on 21 Feb. 1957, H. A. Hyde, describing the results of a 15-year census of pollen grains and mould spores in the atmosphere of Cardiff and elsewhere [**2**, No. 1770], stated that results with horizontal ('gravity') slides reflect the general trend of atmospheric incidence and permit valid conclusions. *Cladosporium* had proved to be the most abundant culturable mould in the air and the most frequent cause of allergic symptoms. P. K. C. Austwick reported that in a study of the spore content of the atmosphere of a normal cowshed at the Veterinary Laboratory, Weybridge, H. K. Baruah, using a Hirst automatic volumetric spore trap, encountered very high values, ranging from $3–13 \times 10^5$/cu. m., with *Aspergillus* and mucoraceous species predominating. These fungi, which occur in quantity in hay and straw, predominate in cases of bovine mycotic abortion [**2**, No. 2477] in which infection is thought to occur primarily by the respiratory route. Similar studies of the airspora of farm buildings should lead to a better understanding of respiratory mycoses and the farmer's lung complex.

168. Richards (M.). **A census of mould spores in the air over Britain in 1952.**—*Trans. Brit. mycol. Soc.*, **39**, 4, pp. 431–441, 1 graph, 1956.

Agar plates were exposed for 10 min. daily on weekdays at 10.0 a.m. at nine places in various parts of Britain from April to Oct. 1952. Some 70 genera of fungi were recorded; about 90% of the isolates comprised species of *Cladosporium*, *Pullularia*, *Epicoccum*, *Botrytis*, *Alternaria*, *Penicillium*, Sphaeropsidales, *Aspergillus*, and *Sporotrichum*. The first 5 were commoner in rural areas than in towns, and *Penicillium* and *Aspergillus* more abundant in towns. *Cladosporium*, overwhelmingly predominant, ranging from 35% of the isolates at Liverpool to 88 at Rothamsted, was at a maximum everywhere from June to Sept.

169. Gregory (P. H.) & Hirst (J. M.). **The summer air-spora at Rothamsted in 1952.**—*J. gen. Microbiol.*, **17**, 1, pp. 135–152, 2 diags., 1 map, 1957. [27 refs.]

The air over an arable field at Rothamsted Experimental Station was sampled from 1 June–25 Oct. 1952 at 2 m. above the ground with an automatic volumetric spore trap, catches in which are less affected by changes in wind speed than are slides and Petri dishes; it catches spores of widely different sizes with almost equal facility. *Cladosporium* spores accounted for 46% of the total catch, hyaline basidiospores (chiefly *Sporobolomyces*) for 31%, and pollen 1%. The results, which should be representative of the large rural areas of central and southern England, show that the major changes of spore concentration depend on the weather and on the phenology of the local vegetation and its associated fungi.

170. Pady (S. M.). **Quantitative studies of fungus spores in the air.**—*Mycologia*, **49**, 3, pp. 339–353, 7 graphs, 1957.

From June, 1953, to June, 1955, a Pady–Rittis spore sampler (*Trans. Kans. Acad. Sci.*, **57**, pp. 157–163, 1954), a modification of the Bourdillon split sampler, mounted 150 feet above the campus of Kansas State College, Manhattan, was exposed for 30 min. daily in summer and once or twice a week in winter, 256 exposures being made in all.

Fungus spores were present throughout the year, but were seasonal in distribution, with peaks in July and Aug., and low concentrations in winter. In summer numbers ranged from 50 to 700/cu. ft. (occasionally up to 1,300); in winter, the figures were usually 5–20.

*Cladosporium* was the commonest fungus. Its occurrence was seasonal, with high variability in numbers from day to day during summer (usually 25–350, but extremes in July ranged from 3·9 to 1,080); in winter numbers were low (mostly 1–15), but some were always present.

*Ustilago* chlamydospores were also present throughout the year, with a peak at harvest; numbers ranged from 3 to 50 (occasionally up to 415) in summer and from 1 to 10 in winter.

*Puccinia* uredospores were present in June and September and occasionally at other times. Rust spores in general were present only on certain days, daily numbers ranging from 1·2 to 12. *Alternaria* spores were seasonal, numbers ranging from 2 to 40 in summer, with a maximum of 97·8 on 7 July 1953, and generally being absent in winter. Yeast cells, *Fusarium* spores, and basidiospores were definitely seasonal and appeared to be abundant after rain. In addition, 17 other genera were occasionally represented together with many unidentified spores and hyphal fragments.

171. Barrack (B. B.). **Mycotic granulomata in Australia.**—*Med. J. Aust.*, 44 (i), 7, pp. 189–192, 1957.

The status of sporotrichosis (*Sporotrichum schencki*) and chromoblastomycosis in Australia is discussed and attention is drawn to their increasing frequency. The common lymphatic form of sporotrichosis and its treatment are described. An

account is also given of the symptoms of chromoblastomycosis, with recommendations for local and general therapy.

172. Myers (W. A.). **Air-borne moulds in Honolulu.**—*J. Allergy*, **27**, 6, pp. 531–535, 2 fig., 1956.

During 16 months 248 culture plates were exposed for 12 min. each, at about noon, on the 2nd floor balcony of the Dept of Pediatrics, Straub Clinic, Honolulu. The most common fungi on the plates, in order of their abundance, were species of *Hormodendrum* [*Cladosporium*], *Aspergillus*, *Monilia*, *Penicillium*, *Fusarium*, *Torula*, and yeasts. *Cladosporium* comprised 33% and *Alternaria* less than 1% of the total spore count. The average spore counts per month did not vary greatly but tended to be slightly higher in the winter, while plates exposed at various times of the day gave the highest average number of colonies about 1300 hr. The average monthly plate count did not seem to be correlated with the incidence of asthma in children.

173. Vlodavets (V. V.). Плесневые грибы в атмосферном воздухе Москвы. [Mould fungi in the atmospheric air of Moscow.]—Природа. [*Nature, Moscow*], **45**, 12, pp. 95–97, 2 fig., 1 graph, 1956.

With the help of Krotov's apparatus and Koch's agar plate method a survey was carried out in 1955 of the mould fungi occurring in the air (1 m. 20 cm. above ground) in Moscow, U.S.S.R. The fungi most frequently found were species of *Cladosporium* (54·9% of the 8,766 colonies obtained), *Penicillium* (10·4), *Alternaria* (7), and *Aspergillus* (3·8). During the winter months (Dec.–March) *Penicillium* and *Aspergillus* were predominant, with *Cladosporium* reduced to between 1·01 and 8·9% of the total mould fungi whereas it constituted 39·8–69·5% during the rest of the year. *Penicillium* spp. were fairly evenly distributed (30·4–47%) though they were considerably fewer in numbers than the other moulds from May–Nov., inclusive, when they comprised 2·4–18·6%. The percentage of *Alternaria* was 0·5–1·7 from Dec.–May and 4·5 to 8·3 from June–Nov.

174. Vlodavets (V. V.). Применение розолового агара для микологических исследований. [The use of rosolic agar for mycological studies.]—Бот. Журн. [*J. Bot. U.S.S.R.* = *Bot. Zh.S.S.S.R.*], **41**, 4, pp. 537–539, 1956.

At the Institute of General and Communal Hygiene, U.S.S.R. Academy of Medical Sciences, Moscow, rosolic agar was tested for its suitability for mould fungi from the air, parallel studies being made with other agars. Rosolic agar consisted of 100 g. meat peptone agar with 5 g. bile, 1 g. lactose, and 0·2 ml. of a freshly prepared 5% alcoholic solution of rosolic acid. This medium was quite satisfactory for fungal growth, more colonies developing on it than on must agar (125·5:100): species of *Alternaria*, *Cladosporium*, and *Aspergillus* developed 85·5, 19·6, and 13·3% more colonies, respectively. The figures for *Penicillium* were 12·3% lower.

On rosolic agar the colonies are smaller but sporulation is good.

175. Jacobs (M. B.), Gerstein (M. J.), & Walter (W. G.). **Dictionary of Microbiology.**—Pp. [iv]+276, 1957. (Van Nostrand Co., Inc., Princeton, N.J.). $6.75.

The more than 5,000 entries in this work cover many of the terms commonly used in the fields of bacteriology, virology, serology, cytology, biochemistry, microscopy, and mycology. Medical mycologists will find this dictionary useful, particularly for information outside their own speciality.

176. Schnitzer (R. J.) & Grunberg (E.). **Drug resistance of Microorganisms.**—Pp. xiv+395, 31 fig., 96 tables, 1957. (Academic Press Inc., New York). $10.00.

In this useful book, mechanisms of drug resistance are comprehensively surveyed

and discussed with special emphasis on bacteria and protozoa. Reference is made (pp. 183–185) to fungi for which 'it seems that very high degrees of drug resistance . . . have so far not been obtained and even a resistance of low order requires extended exposure' to the drug.

177. Parle (J. N.). **Yeasts isolated from the mammalian alimentary tract.**—*J. gen. Microbiol.*, **17**, pp. 363–367, 1957.

In a survey of the yeasts found in the alimentary canal of 169 animals including cows, rabbits, sheep, guinea-pigs, opossums, monkeys, cats, dogs, hedgehogs, mice, pigs, and rats, carried out at the Dept of Microbiology, University of Otago, Dunedin, New Zealand, 17 species from 6 genera were isolated. Of these, *Torulopsis pintolopesii*, *Saccharomycopsis guttulata*, *Candida albicans*, and *T. glabrata* are considered to be true intestinal types, while *C. parapsilosis* and *C. krusei* are intermediates, and the remainder transients.

178. Cooke (W. B.). **Check list of fungi isolated from polluted water and sewage.**—*Sydowia*, Beiheft **1**, pp. 146–175.

The frequent occurrence of *Allescheria boydii* and *Aspergillus fumigatus* in sewage sludge from various localities in Ohio may be noted.

179. Silva (Margarita) & Hazen (Elizabeth L.). **Rhoda Williams Benham 1894–1957.**—*Mycologia*, **49**, 4, pp. 596–603, 1957. [Portr., bibliogr.]

An account of the career of the late Dr. Benham, who was for many years mycologist at the College of Physicians and Surgeons of Colombia University.

[For another obituary notice of R. W. Benham see Georg (Lucille K.), *Mycopathologia*, **8**, 3, pp. 249–251, portr., bibliogr., 1957.]

180. Ajello (L.). **The Communicable Disease Center's film teaching aids in medical mycology.**—*Trans. N.Y. Acad. Sci.*, Ser. II, **20**, 1, pp. 75–78, 1957.

For the assistance of those concerned in the teaching of medical mycology, the Communicable Disease Center, Public Health Service, Chamblee, Georgia, has prepared 8 colour film strips dealing with the detection of pathogenic fungi in clinical samples and the methods used for their isolation and identification; 1 strip on a mycological slide culture technique [R. W. Riddell, *Mycologia*, **42**, pp. 265–270, 17 fig., 1950]; 108 slides representing the histopathology of human mycoses and 173 depicting saprophytic moulds commonly encountered as contaminants in the laboratory; and a motion picture illustrating the epidemiological and clinical aspects of coccidioidomycosis (*Coccidioides immitis*).

181. Floch (H.). **Revue critique des investigations et de la littérature mycologiques pour les années 1946–1956 en Guyane française.** [A critical review of mycological investigations and literature for the years 1946–1956 in French Guiana.] —*Mycopathologia*, **8**, 3, pp. 194–205, 1957. [29 refs.]

The author reviews the work carried out on human mycology at the Institut Pasteur, French Guiana, from 1946–56 [cf. **1**, No. 2467; **2**, No. 2452].

182. Vermeil (C.). **Mycologie médicale humaine en Tunisie : revue des principales acquisitions, analyses des données concernant les années 1946–56.** [Human medical mycology in Tunisia: a review of the principal acquisitions and notes on the data for the years 1946–56.]—*Mycopathologia*, **8**, 3, pp. 206–215, 1 map, 1957. [31 refs.]

Notes, arranged in chronological order, are given on the researches on human mycology undertaken at the Institut Pasteur, Tunis, from 1946–56. The paper concludes with a list of the published records of the human pathogens definitely identified in Tunisia.

183. Negroni (P.). **Desarrollo de los estudios micológicos en la Argentina en el último decenio.** [The development of mycological studies in Argentina during the last ten years.]—*Mycopathologia*, **8**, 3, pp. 216–238, 8 fig., 1 map, 1957. [271 refs.]

A review of researches on human mycology carried out during the past 10 years at the Mycological Centre, Buenos Aires.

184. Schwarz (J.) & Baum (G. L.). **A critical review of medical mycology in the United States 1946–1956.**—*Mycopathologia*, **8**, 4, pp. 271–326, 1957.

This useful review from the Clinical Laboratories Jewish Hospital and the Laboratory of Mycology, Cincinnati General Hospital has sections on monographs and textbooks (22 refs.); North American blastomycosis (80 refs.); candidiasis (47 refs.); coccidioidomycosis (106 refs.); cryptococcosis (48 refs.); histoplasmosis (136 refs.); sporotrichosis (25 refs.); aspergillosis, chromoblastomycosis, and mucormycosis (37 refs.); miscellaneous mycoses (including mycoses of animals) and technique (101 refs.); and dermatophytes (86 refs.); and makes an assessment of the progress in each of these fields.

185. Baldo (J. I.). **El estudio de las micosis en escala nacional.** [The study of mycoses on a national scale.]—Reprinted from *Rev. Acta Med. Venezolana*, **5**, 4, 3 pp., 1957.

A coordinating commission for the national study of mycoses has been set up at the Instituto Nacional de Tuberculosis El Algodonal-Antímano, Caracas, Venezuela. The commission's activities will include the establishment of a national case register and a national culture collection; it will contribute to the standardization of techniques, provide the diagnostic facilities of special laboratories, and publish reports on the information obtained.

186. Campins (H.). **Micosis profundas endémicas en Venezuela.** [Endemic deep mycoses in Venezuela.]—*Mem. Congr. venezol. Ciencias méd.* VI, **5**, pp. 2787–2876, 69 fig., 1957. [86 refs. English summary.]

The author reviews the literature on deep mycoses published in Venezuela and presents new personal cases of actinomycosis (*Actinomyces* [*Nocardia*] *brasiliensis*, *A.* [*Streptomyces*] *madurae*), maduromycosis (*Madurella grisea*), paracoccidioidomycosis (*Paracoccidioides brasiliensis*), chromoblastomycosis (*Fonsecaea* [*Phialophora*] *pedrosoi*, *F.* [*P.*] *compacta*), and histoplasmosis (*Histoplasma capsulatum*).

187. *Indian J. Derm.*, **3**, 1, pp. 1–71, 1957.

This number comprises an editorial and 19 papers on mycotic infections of the skin with special reference to India [see **3**, Nos. 195, 196, 214, 215, 224, 239, 249, 286].

188. Spesivtzeva (N. A.). Ветеринарная Микология за 40 лет. [40 years of veterinary mycology.]—Ветеринария, [~~*J. agric. Sci., Moscow*~~], **34**, 12, pp. 37–43, 1957. Veterinariya

Regarding dermatomycoses, it is stated that horses are mainly attacked by *Microsporum equi*[*num*] and less often by *Trichophyton equi*[*num*], *T. faviforme* [*T. verrucosum*], and *T. gypseum* var. *asteroides* [*T. mentagrophytes*] in that order; cattle by *T. verrucosum* vars. *album* and *discoides*. Good results were obtained by spraying the lesions with a mixture of flowers of sulphur and salicyclic acid in formalin and caustic soda. However LSD (a well-known product of the Laboratory of Sanitation and Disinfection) gives equally good results.

Equine epizootic lymphangitis [*Histoplasma farciminosum*], which was very widespread during the second world war, is stated to have been eradicated from the U.S.S.R. Thorough studies have been made of bronchopneumomycosis

(*Aspergillus* spp.) in the horse and of aspergillosis in birds. Bovine mastitis (*Candida* spp.) is generally caused by careless use of antibiotics. *C. albicans* is an agent of gastroenteritis in pigs. Bovine actinomycosis (*Actinomyces bovis*) is of little importance.

*Aspergillus* spp., *Penicillium* spp., and members of the Mucorales were isolated from bronchial mucus from cattle with bronchitis and spores from these fungi produced a strong allergic reaction in the affected animals. *A. fumigatus*, *A. flavus*, and *A. niger* are important contaminants of fodder, the first mentioned being especially troublesome. *Ustilago* spp. are also of importance in this respect.

189. Mankiewicz (Edith). **Candida albicans. A means for detecting M. tuberculosis on culture media.**—*Amer. Rev. Tuberc.*, **75**, 5, pp. 836–840, 1 graph, 1957.

The author gives full details of the so-called 'tracer' method used at the Royal Edward Laurentian Hospital, Montreal, Quebec, for detection of the early and microscopically invisible growth of *Mycobacterium tuberculosis* on Löwenstein medium, which involves superinoculation with a saline suspension of *C. albicans* cultured on Sabouraud's agar. From the evidence available to date the fungus appears to promote the growth of the surviving elements in an inoculum containing tubercle bacilli inhibited by streptomycin or isoniazid.

190. Ciferri (R.), Redaelli (P.), & Giordano (A.). **Revisione di alcuni Cephalosporium isolati da casi patologici umani.** [A revision of some species of *Cephalosporium* isolated from human pathological cases.]—*Mycopathologia*, **8**, 3, pp. 169–182, 3 fig., 1957. [English summary. 34 refs.]

The authors conclude from a revision (mostly from the original strains) of 8 species of *Cephalosporium* taken from human infections that *Cryptomyces pleomorpha* Gruner is a typical *Cephalosporium acremonium* [cf. **1**, No. 1550], that *Allantospora violacea*, *A. onychophila*, and an unnamed strain should be referred to *C.* (*Allantospora*) *onychophilum* (Vuill.) Coudert [cf. **1**, No. 11], and 2 strains of *Acremonium kiliense* to *C. acremonium*. *C. serrae* Maffei, a good species, is probably indistinguishable from the saprophytic *C. subverticillatum* Schulz. & Sacc. *C. spinosum* Negroni [cf. **1**, No. 782], probably indistinguishable from *C. cordoniformis* Barbosa [loc. cit.], is a coremioidal form of *C. acremonium*. *C. rubrobrunneum* (?) Benedek and *C. stuehmeri* Schmidt & van Beyma are both *C. acremonium*.

191. Ciferri (R.) & Redaelli (P.). **Trichosporium mantegazzae Poll. e Cladosporium chlamydeum n.sp.** [*Trichosporium mantegazzae* Poll. and *Cladosporium chlamydeum* spec. nov.]—*Mycopathologia*, **8**, 3, pp. 183–188, 3 fig., 1957. [English summary.]

From a study of the original strain the authors identified *T. mantegazzae* Poll., taken from a human infection, as a typical *Aureobasidium pullulans* (De By.) Arn. (formerly *Dematium* or *Pullularia*) [cf. **1**, No. 2309].

From the skin of a dog suffering from dermatitis, a new species of *Cladosporium*, *C. chlamydeum*, was isolated. The unbranched conidiophores measured 20–35 × 3·5–4·5 μ and bore 1 acrogenous, variously shaped, conidium, usually non-septate (exceptionally 1-septate), and measuring 3–8 × 3–5 μ. In culture, chlamydospores formed, measuring 12–20 μ (up to 15 × 30 μ) diam.

192. Blank (H.). **Antifungal antibiotics in clinical medicine.**—*Arch. Derm. Syph., Chicago*, **75**, 2, pp. 184–192, 2 fig., 1957.

A review with special reference to nystatin [mycostatin].

193. English (A. R.), McBride (T. J.), & Lynch (J. E.). **PA132, a new antibiotic. II. In vitro and in vivo studies.**—*Antibiot. Ann. 1956–1957*, pp. 676–681, 1957.

It is reported from the Pfizer Therapeutic Institute, Maywood, N.J., that PA132

(from *Streptomyces* sp.) has high activity against a wide range of Gram−and +bacteria and also inhibits the growth of fungi including *Histoplasma capsulatum* (at 100 μg./ml.), *Candida albicans* (> 100), and *Microsporum audouini* (50).

194. Halde (C.), Newcomer (V. D.), Wright (E. T.), & Sternberg (T. H.). **An evaluation of amphotericin B in vitro and in vivo in mice against Coccidioides immitis and Candida albicans, and preliminary observations concerning the administration of amphotericin B to man.**—*J. invest. Derm.*, **28**, 3, pp. 217–231, 1957.

At the Dept of Dermatology, University of California Medical Center, Los Angeles, amphotericin B at 0·5–10·0 μg./ml. inhibited *in vitro* a wide variety of pathogenic fungi. In man, oral administration of the drug indicated that poor absorption occurred from the gastro-intestinal tract. One case of coccidioidomycosis (*Coccidioides immitis*) and one of cryptococcosis (*Cryptococcus neoformans*) were not influenced in their clinical course by this drug.

195. Mitra (S. C.) & Banerjee (B. N.). **Further work on evaluation of the new antimycotic drug (bradex-vioform).**—*Ind. J. Dermat.*, **3**, 1, pp. 65–69, 1957.

As a result of clinical trials with 30 fungal infections of the skin (the results of which are tabulated) at the Dept of Dermatology, Calcutta Medical College, it was found that bradex-vioform (Ciba Ltd.) was particularly useful against infections of *E[pidermophyton] floccosum* and *T[richophyton] rubrum*.

196. Banerjee (B. N.). **Primary actinomycosis of the skin in the tropics.**—*Ind. J. Dermat.*, **3**, 1, pp. 8–14, 7 fig., 1957.

This paper from the Medical College, Calcutta, gives 7 case reports (2 female, 5 male), 3 of aerobic infections (*Actinomyces* [*Streptomyces*] *madurae*, 2; *Nocardia asteroides*, 1) and 4 of anaerobic infections [? *A. israeli*]. Primary actinomycosis of the skin is rare in the Calcutta area, only 15 undoubted cases having been seen among 70,000 patients in 5 years.

197. Hara (M.) & Pierce (M. D.). **Chronic constrictive pericarditis due to Actinomyces bovis. Report of a case by pericardectomy.**—*J. thorac. Surg.*, **33**, pp. 730–737, 2 fig., 1957.

*A. bovis* [*A. israeli*] is stated to have been implicated as the agent of cardiac constriction in only about 14 of the 71 cases of actinomycosis of the heart reported in the world literature since 1882. The fatal case herein fully described occurred in a 35-year-old negro at the University of Arkansas Hospital, Little Rock.

198. Jungermann (P.). **Fungus mastitis : a case report.**—*Vet. Med.*, **53**, 1, pp. 53–54, 1958.

*Nocardia asteroides* was isolated at the College of Veterinary Medicine, Texas, from 1 cow with intractable mastitis in a herd and the author suggests that antibiotic therapy allowed the establishment of the infection.

199. Chin (B.) & Knight (S. G.). **Growth of Trichophyton mentagrophytes and Trichophyton rubrum in increased carbon dioxide tensions.**—*J. gen. Microbiol.*, **16**, 3, pp. 642–646, 4 fig., 1957.

It is reported from the Dept of Bacteriology, University of Wisconsin, Madison, that macroconidial formation was induced in normally mycelial strains of *T. mentagrophytes* and *T. rubrum* by growth on Sabouraud glucose agar in air +12–24% (v/v) $CO_2$.

200. Jacobs (P. H.) & Lorincz (A. L.). **The effect of gelatin and collagenous tissue on Dermatophyte growth.**—*J. invest. Derm.*, **28**, 1, pp. 47–54, 3 fig., 1957.

Experiments made at the Dept of Dermatology, Walter Reid Army Hospital,

Washington, D.C., showed that 5% gelatine (solubilized collagen) was an effective medium for supporting good growth of a range of dermatophytes, but increasing it to 30% restricted the growth. Defatted powdered human keratin supported growth of dermatophytes only slightly better than powdered defatted human corium.

201. Lewis (G. M.), Schmitt (W. J.), & Hopper (Mary E.). **Effect of ionizing radiations on fungi in vitro.**—*Arch. Derm. Syph., Chicago*, **76**, 5, pp. 601–606, 3 fig., 1957.

At the New York Hospital and Cornell University Medical College broth suspensions of stable cultures of *Microsporum gypseum* and *Trichophyton mentagrophytes* were subjected to various amounts of X-rays and subcultures made on to dextrose agar. These were examined after 5 weeks by sectioning. No gross changes in colony characters were induced; microscopic findings indicated a speeding-up of maturation; spores were not reduced in number.

202. Polemann (G.) & Jansen (N.). **Untersuchungen zur Phosphataseaktivität bei Mikrosporon gypseum.** [Investigations of phosphatase activity in *Microsporum gypseum*.]—*Mykosen*, **1**, 2, pp. 63–70, 3 fig., 2 graphs, 1957.

From the Hautklinik, University of Cologne, the authors describe a histochemical and a biochemical method for estimating phosphatase activity in dermatophytes. In *M. gypseum* an alkaline phosphatase (opt. pH range 7–8·5) was present and perhaps also an acid one, but further work will be needed to confirm this.

203. Wirth (J. C.), O'Brien (P. J.), Schmitt (F. L.), & Schler (A.). **The isolation in crystalline form of some of the pigments of Trichophyton rubrum.**—*J. invest. Derm.*, **29**, pp. 47–53, 1957.

At the Graduate School of St. John's University, Brooklyn, N.Y., 3 crystalline pigments were obtained from *T. rubrum*, red needles, orange plates, and purple needles. It is suggested that the colour on the under surface of a culture of *T. rubrum* is due to a mixture of pigments. In addition, ergosterol was isolated from the non-saponifiable fat fraction of *T. rubrum*.

204. Wolf (F. T.). **Chemical nature of the fluorescent pigment produced in Microsporum-infected hair.**—*Nature, Lond.*, **180**, 4591, pp. 860–861, 1957.

From spectroscopic and chromatographic studies at Vanderbilt University, Nashville, Tennessee, on extracts from human hair experimentally infected *in vitro* with *M. canis* and *M. gypseum* it was concluded that the fluorescent pigment produced by these fungi is a pteridine.

[Chattaway (F. W.) & Barlow (A. J. E.) (Fluorescent substances produced by Dermatophytes.—*Nature, Lond.*, **181**, p. 281, 1958) offer evidence from which they conclude it is difficult to accept this claim.]

205. Merkel (M.). **The chemical and antigenic structure of Trichopyton gypseum.**—*Bull. Acad. Pol. Sci.* **5**, 10, pp. 341–344, 1957.

Fractionation of *T. gypseum* [*T. mentagrophytes*] mycelium yielded on a dry weight basis 60% lipids (containing oleic, palmitic, and stearic acids), 30% sugars (22–64% reducing sugars), and 10% proteins (containing a range of amino acids and traces of desoxyribose nucleic acid). All fractions gave a positive complement fixation test with immune rabbit sera but only the protein fraction induced a positive skin reaction in rabbits immunized with *T. mentagrophytes*.

206. Raubitschek (F.) & Maoz (Ruth). **Invasion of nails in vitro by certain Dermatophytes.**—*J. invest. Derm.*, **28**, 3, pp. 261–267, 9 fig., 1957.

At the Dept of Dermatology and Venereology, Hebrew University–Hadassah Medical

School, Jerusalem, invasion of nail clippings by *Trichophyton mentagrophytes*, *T. rubrum*, and *T. tonsurans*, was produced *in vitro* by continuous shake culture technique. Sections of these parasitised nail clippings stained by PAS technique showed hyphae and occasional arthrospore formation between laminae of the nail.

207. Raubitschek (F.). **Preliminary and short report. In vitro invasion of hair by Dermatophytes.**—*J. invest. Derm.*, **29**, 3, pp. 161–163, 1957.

From the Hebrew University–Hadassah Medical School, Jerusalem, the author reports invasion, simulating natural infection, of human hairs by *Trichophyton mentagrophytes in vitro* by the use of continuous shake culture.

208. Dolan (M. M.), Ebelhard (J. J.), Kligman (A. M.), & Bard (R. C.). **A semi-in vivo procedure for testing antifungal agents for topical use.**—*J. invest. Derm.*, **28**, 5, pp. 359–362, 1957.

At the Research Developmental Division, Smith Kline and French Laboratories, Philadelphia, albino male guinea pigs were infected by rubbing into shaved areas of skin a 4-day Sabouraud agar culture of a granular strain of *Trichophyton mentagrophytes*. The scales were collected after 8–9 days' growth and stored in the ice-box. The potential activity of anti-fungal agents in solution were evaluated by measurement of the immersion time necessary to kill the fungus in infected epidermal cells. The results obtained with a number of compounds are tabulated.

209. Wenk (P.) & Frey (J. R.). **Prüfung von Antimykotica unter Verwendung parasitierter menschlicher Haare als Keimträger.** [Tests of antimycotics, using infected human hairs as the test object.]—*Arch. klin. exp. Derm.*, **205**, pp. 150–160, 1 fig., 1957.

In tests at the Medizinischen Forschungsabteilung, F. Hoffmann–La Roche & Co., Basel, Ro 1–6796 (2-methyl-4 cyclohexyl-6 methyl-aminomethyl-phenol-hydrochloride), Ro 2–6911 (2-/*p*-(β-diethylamino-ethoxy)-phenyl/-4-phenyl-2-buten-citrate), and Ro 2–7202 (2-α-chlorethyl-mercapto)-6-(β-diethylamino-ethyoxy)-benzo-thiazol-hydrochloride) were effective (at 1% or less) against various dermatophytes in hairs from human lesions, while 3 other substances were not. These results were closely parallel with those obtained with the same substances using infected guinea-pig hairs.

210. Coates (L. V.), Drain (D. J.). Kerridge (K. A.), Macrae (F. June), & Tattersall (K.). **The preparation and antifungal activity of some salicylic acid derivatives.**—*J. Pharm. Pharmacol.*, **9**, 12, pp. 855–862, 1957.

In the course of routine screening of compounds for chemotherapeutic activity 2-*n*-amyloxybenzamide was found to be fungistatic for certain dermatophytes. In further *in vitro* tests this compound was found to inhibit common dermatophytes at a min. conc. of 1·5–6 μg./ml. and to be a slow-acting fungicide superior to salicylanide, undecylenic acid, and nystatin [mycostatin]. The growth of other pathogenic fungi, saprophytic moulds, yeasts, and bacteria was inhibited at 25–500 μg./ml.

211. Granits-Thurner (J.) & Schirmer (H.). **Über die Wirkung von Zimtsäure-derivaten auf hautpathogene Pilze.** [Concerning the effect of cinnamic acid derivatives on dermatophytes.]—*Mykosen*, **1**, 2, pp. 60–63, 1957.

At the Universitätsklinik für Geschlechts-und Hautkrankheiten, Vienna, a number of derivatives of cinnamic acid were examined for their effect *in vitro* on 10 fungi

including *Trichophyton gypseum* [*T. mentagrophytes*] and *Candida albicans*. Cinnamyl ether and cinnamic aldehyde showed inhibitory action at below 0·05%.

212. Lubowe (I. I.), Perlman (H. H.), Uscavage (J.), & Mulinos (M. G.). **Evaluation of ascosin in the treatment of tinea capitis.**—*Antibiot. Ann., 1956–1957*, pp. 135–139, 1957.

At the Skin and Cancer Hospital, Philadelphia and New York Medical College, 102 cases (82 *Microsporum audouini*; 17 *M. lanosum* [*M. canis*] confirmed by culture) of scalp ringworm were treated with ascosin in petrolatum base. After 6–27 weeks of treatment there was cure or improvement in 60% of the cases. The cumulative cure rate after 12 weeks was 50%, a result which could not be accounted for on the basis of spontaneous cure.

213. Weiner (A. C.) & Schwarz (J.). **Fungus infections of the skin treated with pyrrobutamine compounds.**—*Arch. Derm. Syph., Chicago*, **76**, 6, pp. 783–787, 3 fig., 1957.

From the University of Cincinnati College of Medicine the authors confirm the fungistatic activity of pyrrobutamine against *Trichophyton mentagrophytes*, *T. rubrum*, *T. rosaceum*, and *Microsporum gypseum* by results which are tabulated. Preliminary clinical trials were promising—particularly against *T. rubrum* infections.

214. Behl (P. N.) & Sharma (M. D.). **Incidence of mycotic infection in Delhi.**—*Ind. J. Dermat.*, **3**, 1, pp. 5–7, 1 graph, 1957.

From the Dept of Dermatology and Pathology, Irwin Hospital, New Delhi, is noted a seasonal fluctuation in cutaneous fungal infections which show their greatest incidence in the hot, humid summer and monsoon periods. Of dermatophytes, *Trichophyton mentagrophytes* was the commonest species to be isolated. Tinea capitis is rare, only 6 or 7 cases a year being seen among 14 thousand patients, and black dot and kerion are the commonest forms. *T. violaceum* is the only fungus isolated and *Microsporum* infections are unknown. Epidermophytosis is almost entirely confined to the urban shoe-wearing population. No cases of favus or tinea imbricata [*T. concentricum*] have been seen. T[inea] versicolor [pityriasis versicolor (*Malessezia furfur*)] commonly occurs and trichomycosis axillaris [*Nocardia tenuis*] is occasionally seen. From 4 of 11 cases of mycetoma recorded *Nocardia* [*Streptomyces*] *madurae* was isolated.

215. Lahiri (K. D.). **Tinea Pedis.**—*Ind. J. Dermat.*, **3**, 1, pp. 50–55, 8 fig., 1957. [27 refs.]

A 5-yr. investigation at the Calcutta Medical College of 11,515 cases of this disease showed that 65% were caused by *Trichophyton rubrum* and that infection by this species is increasing in the tropics.

216. Strauss (J. S.) & Kligman (A. M.). **An experimental study of tinea pedis and onychomycosis of the foot.**—*Arch. Derm. Syph., Chicago*, **76**, 1, pp. 70–76, 4 fig., 1957. [24 refs. *B.H.*, **32**, p. 1052.]

This is a report from the Dept of Dermatology, University of Pennsylvania School of Medicine of a mycological study on the feet of volunteers from a prison population consisting of males (20–50 yr. old). Scrapings were examined from interdigital spaces, soles, and nails, both microscopically and by culture. Asymptomatic infections were found to be common. The effect of occlusion in normal interspaces of infected feet was to produce maceration after about 10 days, 5 of 7 revealing also a positive result in KOH. Soles and nails were regarded as reservoirs of the organisms. Experimental intertriginous infections were established with great difficulty in normal subjects.

217. Marples (Mary J.) & Bailey (Margaret J.). **A search for the presence of pathogenic bacteria and fungi in the interdigital spaces of the foot.**—*Brit. J. Derm.*, **69**, 11, pp. 379–388, 1957.

A survey of the pathogenic bacteria and fungi in the 4th interdigital space of the foot in 175 subjects was made at the Dept of Microbiology, University of Otago, New Zealand. The presence of pathogenic fungi was confirmed in 20·6%. The 'mosaic fungus' was observed in 48 subjects, but was not regarded as being related to any clinical findings or species of pathogen [cf. **1**, No. 351; **2**, No. 133].

218. Poleman (G.). **Zum Nachweiß hautpathogener Pilze in der Fußbekleidung.**—[On the demonstration of dermatophytes in footwear.]—*Dtsch. med. Wschr.*, **82**, 44, pp. 1870–1872, 1 graph, 1957.

From the Hautklinik, University of Cologne, the author reports the isolation of *Trichophyton mentagrophytes* from 8 of 150 walking shoes, 6 of 128 house shoes, and 3 of 128 stockings belonging to 128 patients with foot infections. The corresponding figures for *T. rubrum* were 3, 1, and 0, for *Epidermophyton floccosum* 1, 0, and 0, and for species of *Candida* 34, 41, and 15, respectively.

An experiment was performed to determine the influence of deposits found in the shoes on the respiration of *Microsporum gypseum*. The total $O_2$ consumption of the fungus (in mm.$^3$) in 7 hr. in water+deposit (50 mg./cm.$^3$) was 565; in 1% glucose+deposit 740; in glucose alone 114·5; and in water alone 46·5.

219. Schirren (C.). **Antimykotische Wirksamkeit einer neuen Gummiqualität für Schuhe.** [Anti-mycotic efficacy of a new quality of shoe rubber.]—*Zbl. Arbeitsmed.*, **7**, 1, pp. 13–15, 2 fig., 1957.

The result of experiments at the Universitäts-Hautklinik, Hamburg-Eppendorf, demonstrated the antifungal properties of a new type of rubber devised for footwear in public baths and factory washrooms by the author in co-operation with Phoenix-Gummiwerke, Hamburg.

Freshly isolated strains of *Microsporum gypseum* and *Trichophyton mentagrophytes* failed to grow on Kimmig's agar in Petri dishes containing sterilized flaps of the rubber, which was further shown by clinical observations to be unaffected by heat, disinfectants, damp, storage, or long wear.

220. Hansen (P.) & List (G.). **Fußpilzfeindliches Schuhwerk aus Gummi.** [Rubber footwear active against fungi of the feet.]—Reprinted from *Die Berufsgenossenschaft*, **11**, 4 pp., 11 fig., 1956.

The process elaborated at the Forschunglaboratorien der Phoenix-Gummiwerke A.G. [see above] for the antifungal impregnation of rubber used in shoe-making secures even distribution of the active substance KS$^{55}$ throughout the rubber. When the shoes are in use this substance passes steadily to the surface of the rubber, thus providing a constantly renewed protection superior to that which would be obtained by a surface treatment of the completed shoe.

It is claimed that these shoes prevent reinfection from the footwear, a factor which frequently prevents cure.

221. Högler (F.). **Über die Kupfersulfatbehandlung von Hand- und Fußmykosen.** [On the copper sulphate treatment of hand and foot mycoses.]—*Münch. med. Wschr.* **99**, 49, pp. 1860–1861, 1957. [English and French summaries.]

Excellent results are reported from Vienna in the therapy of long-standing [unspecified] mycoses of the hands and feet by bathing once or twice daily, for 20–30 min. in 3·5% copper sulphate solution. Among 47 patients treated by this method, only 6 showed a slight recurrence of infection after 3–4 months, which rapidly yielded to a further course of baths.

Of 788 diabetic patients seen in hospitals and private practice from 1933–45, 27 (3·7%) were suffering from hand, foot, or nail mycoses, the corresponding figures for 341 during the period 1947–56 being 33 (9·7). On the other hand, the incidence of mycoses among the large number of non-diabetics treated during the same period rose only from 0·7 to 1·2%.

222. Paillard (R.) & Brun (R.). **À propos de mycoses.** [In connexion with mycoses.]—*Dermatologica, Basel*, **115**, 5, pp. 721–727, 1 fig., 1957. [German and English summaries.]

From the Clinique Universitaire de Dermatologie, Geneva, Switzerland, the authors describe some mycoses presenting unusual features in their development or epidemiology.

A hospital nurse transmitted infection by *Microsporum gypseum* to 11 persons.

A female telephone operator developed a squamous mycosis caused by *Trichophyton rubrum* on the palm of the right hand. The lesions and those on both feet, due to the same organism, were cured in 3 weeks by applications of permine (dichloro-oxyquinoline). The infection was not transmitted to any of the patient's 170 fellow-workers.

Two cases of non-inflammatory tinea due to *M. lanosum* [*M. canis*], contracted from a dog and a cat, occurred in schoolchildren; here again there was no spread of infection.

In comparative studies in the laboratory, sterosan or siosteran (dichloro-oxyquinaldin) was generally more effective against *Candida albicans* than vioform (chloriodo-oxyquinoline) or permine.

223. Esteves (J.). **Acromia parasitária devida ao 'Microsporum felineum'.** [Parasitic achromia due to *Microsporum felineum*.]—*Trab. Soc. portug. Derm.*, **15**, 1, pp. 43–48, 1957.

Lesions of the glabrous skin with the characteristic aspect of ringworm appeared in a child suffering from tinea capitis caused by *M. felineum* [*M. canis*] who was receiving repeated sun baths. After local treatment the skin lesions were replaced by patches looking paler than the pigmented skin surrounding them. The author is of the opinion that several fungi may produce the parasitic pseudo-achromia which depends on the inflammatory phenomena.

224. Panja (G.). **Tinea cruris and tinea circinata.**—*Ind. J. Dermat.*, **3**, 1, pp. 44–49, 7 fig., 1957.

The 2 conditions are briefly surveyed. Tinea cruris is stated to be the commonest of all ringworm affections in India and is usually caused by *Trichophyton rubrum*, less frequently by *Epidermophyton floccosum*, occasionally by *T. mentagrophytes* and rarely by *Microsporum canis*. Tinea circinata is less common in India than in Europe and America. *T. mentagrophytes* and *T. rubrum* are involved, never *M. canis*.

225. Shector (W. E.), Morgan (R. F.), & Blum (W.). **Human immune globulin therapy of extensive Trichophyton rubrum infection.**—*Arch. Derm. Syph., Chicago*, **76**, 2, pp. 252–253, 1957. [*B.H.*, **32**, p. 1153.]

The authors record the successful treatment of extensive tinea corporis of 12 years standing (due to *Trichophyton rubrum*) in a 50-yr.-old man by the intramuscular injection of 2 ml. of immune globulin 3 times a week for 4 weeks.

226. Neves (H.). **Infecção humana experimental pelo 'Trichophyton violaceum.'** [Experimental infection of man with *Trichophyton violaceum*.]—Thesis. 38 pp. Casa Portuguesa Ed., Lisbonne, 1957.

Experimental infection of the glabrous skin was obtained with hairs parasitized

by *T. violaceum* and with cultures. Contact with parasitized hairs was sufficient to produce an infection. In order to obtain a similar result with cultures a previous traumatism of the skin was necessary. About 50% of the individuals did not acquire the infection and similar results were obtained in adults and children. The incubation period was 3–21 days. The lesions were always self-limiting, spontaneous healing being observed after 14–65 days.

227. Jillson (O. F.) & Piper (E. L.). **The role of saprophytic fungi in the production of eczematous dermatitis. I. The location of fungi within human nails.**—*J. invest. Derm.*, **28**, 2, pp. 137–144, 8 fig., 1957.

The mature nail consists of 3 layers, superficial or dorsal, main nail body or intermedial nail, and deep layer or ventral nail. These layers can be delineated by silver stains or by the periodic acid-Schiff procedure. The authors report from the Hitchcock Clinic, Kanoon, New Hampshire, that saprophytic fungi were found in the dorsal layer or in the intermediate layer. Using nail clippings from pathologically infected nails, embedding them in gelatin to soften them before sectioning, *Trichophyton mentagrophytes* was found in the dorsal layer while *T. rubrum* was chiefly confined to the ventral layer and did not invade the nail bed.

228. Menges (R. W.), Love (G. J.), Smith (W. W.), & Georg (Lucille K.). **Ringworm in wild animals in southwestern Georgia.**—*Amer. J. vet. Res.*, **18**, 68, pp. 672–677, 6 fig., 1957.

In a survey of 1,142 wild animals, dermatophytes were isolated from hair specimens of 88 (7·7%). Only 16 had skin lesions and dermatophytes were not obtained from those animals. None of the hair specimens showed fluorescence or was positive by microscopy. The organisms encountered were: *Microsporum gypseum* from *Peromyscus polionotus* and *Rattus norvegicus*; *M. gypseum* ('red variety') from *Reithrodontomys humulis, P. polionotus, P. gossypinus, P. nuttalli, Mus musculus, Sigmodon hispidus* and *Neotoma floridana*; *Trichophyton mentagrophytes* from *Didelphis virginiana, P. polionotus, P. gossypinus, M. musculus, S. hispidus, R. norvegicus* and *R. rattus*.

Infection was more common in young rats (12·5%) than in old rats (4·2%). The seasonal peak for all of the species occurred during the spring months. *M. gypseum* was cultured from 16 (26%) of 62 soil specimens from areas where the animals were trapped. Because of their ubiquity and abundance, rodents probably constitute a more likely source of human infection with *T. mentagrophytes* than dogs or farm animals.

229. McPherson (E. A.). **The influence of physical factors on dermatomycosis in domestic animals.**—*Vet. Rec.*, **69**, 43, pp. 1010–1013, 7 fig., 1957.

The survival of several dermatophytes stored dry in the dark at room temp. and of *Trichophyton verrucosum* when exposed to ultra-violet light is described from the Royal (Dick) School of Veterinary Studies, Edinburgh. *T. verrucosum* and *T. equinum* were viable in skin scrapings after 4½ and 4 yr., respectively; *T. mentagrophytes* and *Microsporum canis* after 1½ yr. In skin scabs 1·5 mm. thick the arthrospores of *T. verrucosum* were protected from the action of ultra-violet light equivalent to 437 hr. of mid-day, mid-summer, mid-latitude sunshine. The spread of *T. verrucosum* ringworm on cattle in northern Britain is claimed not to be limited by summer sunshine.

230. Kaplan (W.), Georg (Lucille K.), & Gromley (C. L.). **Ringworm in cats caused by Microsporum gypseum.**—*Vet. Med.*, **52**, 7, pp. 347–349, 3 fig., 1957.

Four cases of ringworm in cats due to *M. gypseum* are reported from the Communicable Disease Center, Chamblee, Georgia. The clinical and mycological findings are discussed. It would appear that the condition is rare in cats.

231. Kaplan (W.) & Georg (Lucille K.). **Isolation of Microsporum audouinii from a dog.**—*J. invest. Derm.*, **28**, 4, pp. 313–318, 1957.

From Communicable Disease Center, Atalanta, Georgia, it is reported that after the introduction of a puppy into a home, 2 children were found to have tinea capitis. They were Wood's light positive but infection was not confirmed by culture. Patches of alopecia subsequently appeared scattered all over the puppy. A culture obtained was identified as *M. audouini*.

232. Kaplan (W.), Georg (Lucille K.), Hendricks (S. I.), & Leeper (R. A.). **Isolation of Microsporum distortum from animals in the United States.**—*J. invest. Derm.*, **28**, 6, pp. 449–454, 2 fig., 1957.

At the Communicable Disease Center, Atalanta, Georgia, *M. distortum* [**2**, No. 1678] was found in 4 pet monkeys and 1 dog. This is the first time this fungus has been recorded in the United States. Mycological findings are illustrated, and the clinical findings and significance of the cases are discussed.

233. Schirren (C.) & Rieth (H.). **Epidemiologische Untersuchungen zur Rindertrichophytie mit Hinweis auf die antimykotische Therapie.** [Epidemiological investigation of bovine trichophytosis with indications for therapy.]—Reprinted from *Tierärztl. Umsch.*, **10**, 11 pp., 6 fig., 1957.

From the Universitäts-Hautklinik, Hamburg-Eppendorf the author reports an investigation of 17 cases of human trichophytosis (*Trichophyton verrucosum*) in the Hamburg area, in which cattle were the source of infection. Of 10 farms investigated some were small, with only a few cattle kept under poor conditions, and the high incidence of bovine infection in these was in marked contrast to the negligible incidence in the larger, efficient farms.

234. Kaplan (W.), Hopping (J. L.), & Georg (Lucille K.). **Ringworm in horses caused by the dermatophyte, Microsporum gypseum.**—*J. Amer. vet. med. Ass.*, **131**, 7, pp. 329–332, 5 fig., 1957.

Of 11 horses at Atlanta, Georgia, 8 had multiple crusted areas from which *M. gypseum* was recovered. The lesions had completely healed 12 weeks after having first been noticed. *M. gypseum* was isolated from 7 of 9 soil samples near the stable and from the pasture. This is the 1st report of such an epizootic from the United States.

235. Stepanishcheva (Mme Z. G.). Трихофития когтей у Кролика. [*Trichophyton* infection in the claws of Rabbits.]—Ветеринария [*Veterinaria*], **10**, pp. 59–60, 1956. [Abs. from *Referat. Zh. Biol., 1957*, 17, No. 76703.]

On a rabbit-rearing farm in U.S.S.R. an infection of the skin and the claws of the animals was caused by *T. gypseum* [*T. mentagrophytes*].

236. Menges (R. W.), Georg (Lucille K.), & Habermann (R. T.). **Therapeutic studies on ringworm-infected guinea pigs.**—*J. invest. Derm.*, **28**, 3, pp. 233–237, 1957.

It is reported from the Communicable Disease Center, Atalanta, Georgia, that in a spontaneous epidemic of *Trichophyton mentagrophytes* in guinea-pigs various fungicides were tested as 'dips'. 'Artho Tack Wash' was found to be non-toxic and effective (1:200, 4 dips at weekly intervals).

237. Blank (F.). **Favus of Mice.**—*Canad. J. Microbiol.*, **3**, 6, pp. 885–896, 4 plates, 1 map, 1957. [97 refs.]

This paper from the Dept of Bacteriology and Immunology, McGill University, Montreal, consists of an historical survey, and an account of mycological investiga-

tions and epidemiological observations of this disease in the Lower St. Lawrence Valley, where the farming community becomes infected via dogs and cats, followed by a detailed critical discussion of the taxonomy of the causative fungus.

In divergence from the opinion of most other workers [cf. **1**, No. 1977] the author believes this fungus should be placed in the genus *Microsporum* and so be designated *M. quinckeanum* (Zopf) Guiart et Grigorakis, his reasons being that most of the macroconidia are pedicellate and spindle shaped with pointed tips, that in common with other *Microsporum* spp. the microconidia are elongated and the primary cultures rapid-growing and flat, and that as in *M. gypseum* the macroconidia shrink when mounted in Canada balsam and spontaneous infections do not affect hairs.

238. Heymer (T.). **Über das Vorkommen von Streptomyces coelicolor auf der menschlichen Haut und Schleimhaut und seine fungistatische Wirkung.** [On the occurrence of *Streptomyces coelicolor* on human skin and membrane and its fungistatic action.]—*Arch. klin. exp. Derm.*, **205**, 2, pp. 212–218, 5 fig., 1957.

At the Universitäts-Hautklinik, Würzburg, Germany, *Streptomyces coelicolor* has been isolated from squamae of 60 of 300 patients with suspected dermatomycoses and from 25 of 150 tonsils examined, while samples of sputum also yielded the organism frequently. Of particular interest is its antagonistic reaction to a number of human pathogens, including species of *Trichophyton*, *Candida*, *Geotrichum*, and *Sporotrichum*.

239. Lahiri (K. D.), Sen (S.), Kundu (R.), & Lahiri (M. R.). **Tinea versicolor.**—*Ind. J. Dermat.*, **3**, 1, pp. 57–58, 1 fig., 1957.

Of 24,500 cases of fungal infection studied at the Skin Dept, Calcutta Medical College, 7,000 were of tinea [pityriasis] versicolor (*Malassezia furfur*). The disease is most common in the summer, rather less common in the monsoon period, and least common in winter.

240. Levan (Norma E.). **Selenium sulphide suspension in the treatment of T. versicolor.**—*Arch. Derm. Syph., Chicago*, **75**, pp. 128–129, 1957.

A 2·5% suspension of selenium sulphide applied to the body after bathing on 3 successive nights was used by the Dept of Dermatology, University of Southern California School of Medicine, Los Angeles, to treat 23 cases of pityriasis versicolor (*Malassezia furfur*). There were 5 failures and no toxic side effects.

241. Thaesler (G.). **Die Behandlung der Hautpilzerkrankungen mit Curis.** [The treatment of dermatomycoses with curis.]—*Derm. Wschr.*, **135**, 8, pp. 181–185, 1957.

On the basis of clinical experience at the Universitäts-Hautklinik, Mainz, Germany, it is concluded that curis (Caesar u. Loretz K.G., Michelstadt, Taunus) consisting of panthothenic acid calcium, special fungisan-ester (derivative of *p*-oxybenzoic acid), 1,2-propylane glycol, chlorocarvacrol isopropyl alcohol, and lactic acid for buffering, offers promise in the therapy of erythrasma [*Nocardia minutissima*] and pityriasis versicolor [*Malassezia furfur*].

242. Castellani (A.) & De Silva (R.). **Tinea nigra : a general account based on far-eastern experience.**—*Mykosen*, **1**, 2, pp. 41–49, 5 fig., 1957.

Tinea nigra as seen in the Far East is described, with notes on differential diagnosis and treatment. While referring to the causative organism as *Cladosporium mansoni* the authors consider that further work is necessary to establish the generic position of the fungus and to determine whether it is identical with *C. wernecki*, the agent of the disease in S. and C. America [cf. **3**, No. 52 and below].

243. Slepyan (A. H.) & Geuting (B. C.). **Tinea nigra palmaris in the Chicago area.**—*Arch. Derm. Syph., Chicago*, **76**, 5, pp. 570–571, 6 col. fig., 1957.

The authors report observations on a case in a white woman (aged 20) who noticed a black spot on the left palm after her arrival in Panama in 1952. This slowly increased in size, and when seen in the Chicago area in 1955, there was a dull black area on the palm. Microscopical and cultural characteristics were typical of *Cladosporium wernecki* [see above].

244. Thomas (E.), Job (C. K.), & Hadley (G. G.). **Chromoblastomycosis.**—*Indian J. med. Sci.*, **11**, 8, pp. 570–573, 1957.

The fungus isolated from verrucous lesions persisting over a 12-year period on the right foot of a 35-year-old male native of Bihar, resident in Assam, is tentatively referred to *Hormodendrum compactum* [*Phialophora compacta*].

245. Valdes (E. F.). **Tratamiento de la chromoblastomicosis por el calciferol y el yoduro de potasio.** [Treatment of chromoblastomycosis with calciferol and potassium iodide.]—*Rev. Sif. Leprol.*, **12**, 2, pp. 58–59, 1 fig., 1956. [Received 1958.]

In this Cuban case of chromoblastomycosis (*Hormodendrum* [*Phialophora*] *pedrosoi*) of the right knee and lower leg in a 37-yr.-old white male treatment by calciferol ($6 \times 10^5$ units *per os* weekly and $5 \times 10^4$ units by injection twice weekly) and potassium iodide (dosage rising to 1 g./day) achieved, within 4 months, complete relief of pain and pruritus and remission of hyperkeratosis, while no further lesions developed in the period. There were no adverse reactions to the treatment.

246. Cockshott (W. P.). **The therapy of mycetoma.**—*W. Afr. med. J.*, N.S., **6**, 3, pp. 101–107, 1957. [*T.D.B.*, **55**, p. 92.]

In laboratory tests at University College, Ibadan, Nigeria, diamino diphenyl sulphone (D.D.S.) gave total inhibition of the growth of *Phialophora jeanselmei*, *Monosporium apiospermum* [*Allescheria boydii*], *Cephalosporium falciformis*, and *Madurella mycetomi* (3 strains), at 2, 200, 2,000, and 20 $\mu$g./ml., respectively. The corresponding figures for novex (22 'dihydroxy 55' dichloro diphenyl sulphide) (Boehringer & Soehne) were 0·1, –, 60, and 60–200 $\mu$g./ml., respectively. Novex gave partial inhibition of the growth of *M. apiospermum* at 0·2 $\mu$g./ml. In combination with conservative surgery, the administration of novex and D.D.S. for the cure of mycetoma [cf. **2**, No. 1746] would appear to merit extended trial. These drugs are cheap, safe, and easily administered to out-patients.

247. De Vries (G. A.) & Van der Hoeven (L. H.). **Report of a case of black grain maduromycosis of the foot caused by an aberrant strain of Madurella mycetomi (Laveran) Brumpt on Curaçao, Netherlands Antilles.**—*Mycopathologia*, **8**, 4, pp. 253–259, 3 fig., 1957.

This case in a 38-yr.-old man living on Curaçao is reported on from the Centraalbureau voor Schimmelcultures, Baarn, Netherlands. The atypical strain of *M. mycetomi* isolated is characterized by its appearance on potato glucose agar, conservation agar, oatmeal agar, and wort agar, being blueish and crust-like on the 1st, spreading, arachnoid and cream-coloured on the 2nd, black and moist on the 3rd, and greyish brown felty on the last medium. Also characteristic are the very faint pigment production into the medium and the rapid development on conservation agar.

248. Borelli (D.). **Madurella mycetomi: Fialides, fialosporos. Inoculación al ratón.** [*Madurella mycetomi*: phialides and phialospores. Inoculation of the mouse.]—*Bol. Lab. clin.* (*Carácas*), **2**, 1–2, pp. 1–15, 1957.

Two strains of *M. mycetomi* on Sabouraud glucose agar with milk showed abundant

conidia as described by Abbott [**2**, No. 1910]. The author also describes not only isolated conidia but also clusters at the tip of phialides. The globose phialospores are of a yellow golden colour and about 4 $\mu$ diam. Typical grains were obtained in mice inoculated intraperitoneally and the best results were observed in mice which had been inoculated previously with *Histoplasma capsulatum*. The lesions were regressive.

249. Panja (G.) & Chaudhuri (S. N.). **Mycetoma of the foot—melanoid (black) variety.**—*Ind. J. Dermat.*, **3**, 1, pp. 24–26, 4 fig., 1957.

A brief historical survey of the disease is followed by a case report of a male Hindu cultivator, aged 42, whose condition was attributed to *Glenospora semoni*.

250. Martin-Lalande (J.) & Lo (J.). **Aspergillome bronchectasiant associé à une tuberculose pulmonaire active. Résultats favorables d'un traitement médical antifungique.** [Bronchietatic aspergilloma associated with active pulmonary tuberculosis. Favourable results of a medical anti-fungal treatment.]—*J. franc. Méd. Chir. thor.* **40**, 1, pp. 77–81, 2 fig., 1957.

A 44-year-old male patient suffering from a long-standing bronchiectatic aspergilloma [? *Aspergillus fumigatus*: cf. **3**, No. 57 *et seq.*] and tuberculosis responded very favourably to treatment with mycostatin at 2,000,000 units daily in successive series of 20, 15, and 10 days, with a 10-day interval between each.

251. Mangiaracine (Anita B.) & Liebman (S. D.). **Fungus keratitis (Aspergillus fumigatus). Treatment with nystatin (mycostatin).**—*Arch. Ophthal., N.Y.*, **58**, 5, pp. 695–698, 4 fig., 1957.

The successful treatment with mycostatin of a case of hypopyon keratitis (*Aspergillus fumigatus*) in a 37-year-old labourer, attributed to the blowing of hay into the eye while baling, is reported from the Massachusetts Eye and Ear Infirmary, Boston. The drug was administered both locally and systemically.

252. Vanbreuseghem (R.) & De Vooght (P.). **Particularités morphologiques d'un Aspergillus flavus Link 1809 isolé d'une urine.** [Morphological peculiarities of *Aspergillus flavus* Link, 1809, isolated from urine.]—*Ann. Parasit. hum. comp.*, **32**, 4, pp. 443–449, 8 fig., 1957.

A description is given of *A. flavus* isolated from the urine of a male patient, aged 80 [**2**, No. 1476], who had undergone prostatectonomy and later been treated with numerous antibiotics. In culture, the fungus presented in addition to the normal characters of *A. flavus* the following unusual features: 1 phialide only, inserted in a mycelial thread and producing conidia in chains or in a globular mass; the same, but the phialide was borne on a long sporophore; the extremity of the sporophore, abnormally septate, bore 2 phialides, each of which gave rise to a chain of conidia; sporophores bearing 3–4 phialides at the extremity, which was enlarged; and *Aspergillus*-like heads reduced to a few sterigmata developing progressively towards the normal head. These characters have been retained in pure culture throughout numerous transfers during 2½ yr. [See also R. Vanbreuseghem, À propos d'un *Aspergillus flavus* Link 1809 isolé d'une urine, *Acta Urd. Belg.*, **25**, 3, pp. 310–318, 1957.]

253. Drouhet (E.) & Wilkinson (R.). **Activité thérapeutique de l'amphotéricine B dans la blastomycose expérimentale** [Therapeutic activity of amphotericin B in experimental blastomycosis.]—*Ann. Inst. Pasteur*, **93**, 5, pp. 631–646, 2 fig., 1957. [*T.D.B.*, **55**, p. 321.]

Experiments at the Institut Pasteur, Paris, using mice and golden hamsters experimentally infected with *Blastomyces dermatitidis*, has shown that amphotericin B

[see below] has a powerful curative effect. All infected animals survive when they receive 2–8 $\mu$g. of the antibiotic orally, whereas mortality in the controls reaches 100% in 4 weeks. With few exceptions treated animals are anatomically normal and cultures of the organs are negative for *B. dermatitis*. The chemically related amphotericin A and nystatin are inactive against the disease in these animals. Amphotericin B is non-toxic at the dosages used in the experiments.

254. Harrell (E. R.) & Curtis (A. C.). **The treatment of North American blastomycosis with amphotericin B.**—*Arch. Derm. Syph., Chicago*, **76**, 5, pp. 561–568, 8 fig., 1957. [*T.D.B.*, **55**, p. 322.]

From the Dept of Dermatology and Syphilis, University of Michigan Medical School, are reported 4 stilbamidine-resistant cases of *Blastomyces dermatitidis* infection, 2 in white males and 2 in male negroes, all showing cutaneous and pulmonary involvement. All were apparently cured with amphotericin B [see above] at 50 mg. daily (intravenously in 1 l. of 5% glucose during 6–8 hr.) to a total of 1 g.

255. Cornbleet (T.). **Thyroid-iodide therapy of blastomycosis.**—*Arch. Derm. Syph., Chicago*, **76**, 5, pp. 545–548, 1957. [*T.D.B.*, **55**, p. 322.]

The author reports from the University of Illinois College of Medicine the successful treatment of 11 cases of blastomycosis (*Blastomyces* [*dermatitidis*]) and 1 of sporotrichosis (*Sporotrichum schencki*) by the administration of thyroid and potassium iodide.

256. Bakerspigel (A.). **The structure and mode of division of the nuclei in the yeast cells and mycelium of Blastomyces dermatitidis.**—*Canad. J. Microbiol.*, **3**, 6, pp. 923–936, 8 pl., 1957.

The author reports from the Faculty of Medicine, University of Western Ontario, London, Canada, that unlike DeLamater [cf. **1**, No. 1063] he found the Feulgen reaction of use and suggests that this discrepancy may be due to differences in fixation. Observations on the living yeast cells show that nuclear division takes 4–6 min. Interdivisional and recently divided nuclei migrate into the yeast buds and also from one cell to another via the pores in the septa of elongated yeast cells and mycelium. Though chromosome-like elements, ranging from 8–6 in number were seen in some hyphae possibly associated with condial-bearing stalks, the author is of the opinion that in *B. dermatitidis* the vegetative nuclei do not divide in the classical mitotic manner, a disagreement with DeLamater's interpretation of nuclear structure and division [loc. cit.].

257. *Irish J. med. Sci.*, Ser. 6, 378, pp. 241–267, 1957.

This issue contains the following papers presented at a Symposium at the Royal Academy of Medicine in Ireland on 13 March 1957: Drouhet (E.), Pathology, diagnosis and treatment of moniliasis (p. 241); Harman (J. W.) & Masterson (J. G.), The mechanism of nystatin action (p. 249); O'Donovan (D. K.), Hypoparathyroidism and moniliasis (p. 252); Kidney (W.), Candida infection in paediatrics (p. 258); O'Sullivan (J. F.), Moniliasis in surgery (p. 262); Meenan (F. O. C.), The incidence of *Candida albicans* after antibiotic therapy (p. 265); Jackson (N.), Moniliasis (p. 267).

258. Matilla (V.). **Problemas clínicos que plantea la moniliasis.** [Clinical problems arising from moniliasis.]—*Med. Trop., Madrid*, **30**, 6, pp. 419–441, 8 fig., 1957.

Most of the data in this general review of moniliasis (*Candida albicans*) has already been noticed in this *Review* [cf. **3**, No. 93].

259. Dobias (B.). **Moniliasis in pediatrics.**—*Amer. J. Dis. Child.*, **94**, 3, pp. 234–251, 18 col. fig., 1957. [181 refs. B.H. **33**, p. 40.]

On the basis of personal experience at the College of Physicians and Surgeons, Columbia University, and a study of the literature, the author presents a useful survey of up-to-date information on juvenile moniliasis (*Candida* spp., mostly *C. albicans*), arranged under the following headings: introduction; causative agent; disease forms; moniliasis in infants; moniliasis in children; allergic manifestations; anodermatis enteropathica; some aspects of the pathogenicity of *Candida*; endotoxin of *Candida*; incidence of *Candida*; epidemiology; predisposing factors; laboratory diagnosis; and treatment and prevention [cf. **3**, No. 88].

260. Artagaveytia-Allende (R. C.) & García-Zorrón (Noemí). **Levaduras aisladas de diversos materiales de origen humano y animal.** [Some yeasts isolated from several materials of human and animal origin.]—*Ciencia, Méjico*, **16**, 9, pp. 212–214, 1957.

*Candida albicans* was found in the faeces of 40% of healthy human beings in Montevideo, Uruguay; *C. tropicalis* in the tongue epithelium of cows; *C. pseudotropicalis* and *Torulopsis pintolopesi* in the peritoneum of mice. *T. glabrata* was isolated twice from the human vagina and once from the sputum of a child.

261. Burry (A. F.). **Hydrocephalus after intrauterine fungal infection.**—*Arch. Dis. Childh.*, **32**, 162, pp. 161–163, 1957.

A fatal case of hydrocephalus in an infant is described from Christchurch Hospital, New Zealand. The condition was attributed to intra-uterine fungal infection, possibly, from the appearance of stained brain sections, by *Candida albicans*. No cultures were made.

262. Frain-Bell (W.). **Chronic paronychia. Short review of 590 cases.**—*Trans. St. John's Hosp. Derm. Soc.*, **38**, pp. 29–30, 1957.

It was noted that chronic paronychia predominantly affected women in the fifties. In men, 26% were chefs, barmen or fishmongers.

*Monilia* [*Candida*] was present in 68% examined. Abnormalities of peripheral circulation occurred in a high proportion of cases and it is suggested that *Candida* and bacteria play only a minor role in perpetuating the condition.

263. Sclafer (J.). **L'allergie à Candida albicans. (Clinique, diagnostic, traitement.)** [Allergy to *Candida albicans*. (Clinical features, diagnosis, treatment).]—*Sem. Hôp. Paris*, **33**, 21, pp. 1330–1339, 3 graphs, 1957. [English, German, and Spanish summaries in Supplement No. 21.]

After stating that he estimates that at least 10% of allergic conditions are due to *C. albicans*, the author gives a detailed account of a study of 114 cases due to *C. albicans* out of a total of 2,000 cases of allergy. Of these 114, 71 were cases of eczema (mostly affecting the hands and eyelids), 25 were urticaria, prurigo strophulus, and Quincke's oedema, 41 affected respiration, and 23 were cephalalgia and migraine. Among the less common manifestations were gastric and vesico-urethral discomfort.

Different kinds of symptoms frequently affected one and the same patient. The symptoms were also very persistent, unaffected by change of place and climate, appeared chiefly in spring and summer, and were aggravated by treatment with certain antibiotics.

Biological diagnosis depends on the discovery of a mycotic focus of infection and (mainly) on the use of an extract of *C. albicans*, the tests being made intradermally with a wide range of dilutions.

Treatment consists in desensitization by subcutaneous injections of *C. albicans* extract. On rare occasions, nystatin [mycostatin] gave excellent results.

264. Duncan (A. G.). **Cutaneous moniliasis ; report of a case occurring on normal skin following an antibiotic ointment.**—*Arch. Derm. Syph., Chicago*, **76**, 4, pp. 434–436, 1 fig., 1957.

This note consists of the personal observation of a physician who found he was a carrier of *Candida albicans*. An eruption in the left armpit followed the use of neosporin ointment used as a deodorant on otherwise normal skin. The lesion was clinically typical of cutaneous moniliasis, and was confirmed culturally. On 3 occasions the lesions of pruritus ani appeared following the use of 3 different antibiotics by mouth.

265. Bernard (J.), Chavelet (F.), & Mathé (G.). **Recherche des facteurs étiologiques favorisant la surinfection à Candida albicans dans les hémopathies malignes. Étude portant sur vingt-deux observations.** [A search for the etiological factors favouring superinfection by *Candida albicans* in malignant hemopathies. A study of 22 cases.]—*Sem. Hôp. Paris*, **33**, 21, pp. 1323–1326, 1957. [English, German, and Spanish summaries in Supplement No. 21.]

A study of infection by *C. albicans* in 22 patients suffering from malignant haemopathy confirmed the author in the view that infection was favoured by treatment with antibiotics, indicated that cortisone was implicated, and suggested that antipurins may also play a part.

266. Justin-Besançon (L.), Cornet (A.), Barbier (P.), & Meurgue (G.). **Manifestations digestives à Candida après antibiothérapie.** [Digestive manifestations due to *Candida* after antibiotherapy.]—*Sem. Hôp. Paris*, **33**, 21, pp. 1317–1323, 1957. [English, German, and Spanish summaries in Supplement No. 21.]

Studies at the Hôpital Bichat, Paris, showed conclusively that treatment with nystatin [mycostatin] in combination with tetracycline prevented the development of clinical mycotic manifestations, or considerably reduced them, in patients previously treated with antibiotics which favoured infection of the stools, urine, and sputum by *Candida* spp.

267. Kozinn (P. J.), Taschdjian (Claire L.), Dragutsky (D.), & Minsky (A.). **Treatment of cutaneous candidiasis in infancy and childhood with nystatin and amphotericin B.**—*Antibiot. Ann., 1956–1957*, pp. 128–134, 1957.

The authors report from the Maimonides Hospital, Brooklyn, N.Y., that early lesions of cutaneous moniliasis (esp. of the diaper area) of less than 48 hr. duration were cured in 5–6 days with nystatin [mycostatin] and in 8–9 days with amphotericin B ointment. Cases of longer duration responded to mycostatin in 17–18 and amphotericin in 12–13 days on the average but the rate of failures was higher. The overall rates of cures were 84% for mycostatin and 80% for amphotericin B [cf. **3**, No. 88 and Cutaneous candidiasis in early infancy and childhood, *Pediatrics*, **20**, 5, pt. 1, pp. 827–834, 1957, by the same authors].

268. Halde (Carlyn), Wright (E. T.), Pollard Jr. (W. H.), Newcomer (V. D.), & Sternberg (T. H.). **The effect of amphotericin B upon the yeast flora of the gastrointestinal tract of man.**—*Antibiot. Ann., 1956–1957*, pp. 123–127, 1957. [11 refs.]

It is reported from the University of California Medical Center, Los Angeles, that amphotericin B administered orally at 50–300 mg. 4 times/day decreased the faecal *Candida albicans* count. A similar effect was obtained in combination with tetracycline. No reactions necessitating the cessation of administration of amphotericin B were encountered.

269. Gabito Farías (J.). **Algunos aspectos de la infeccíon por Candida albicans y su tratamiento por la nistatina.** [Some aspects of infection by *Candida albicans* and its treatment with nystatin.]—*Arch. Pediat., Urug.*, **28**, 2, pp. 82–97, 1957. [French and English summaries.]

Following a summary of information on the morphology, mode of infection, and clinical manifestations of *C. albicans*, the problems of antibiotics in relation to moniliasis, and its treatment with mycostatin (1 g., approximately 1,000,000 units daily), the author presents 14 cases of the disease in infants (4 in Paris, the rest in Uruguay). In 12 cases the administration of mycostatin resulted in the disappearance of the fungus within 48 hr., while in 2 of thrush the treatment was unsuccessful and gentian violet was substituted. There were 2 relapses which responded favourably to a 2nd course of mycostatin.

270. Fomina (Mme I. P.) & Stepanishcheva (Mme Z. G.). Модель экспериментального острого висцерального кандидомикоза Мышей и ее использование для изучения терапевтической эффективности противодрожжевых антибиотических и химиотерапевтических препаратов. [Acute experimental visceral *Candida* infection of Mice in the investigation of the therapeutic efficiency of anti-yeast antibiotics and chemotherapeutants.]—Антибиотики [*Antibiotics*], pp. 34–38, 1957. [English summary.]

At the Institute of Mycoses and Venereal Diseases, Moscow, U.S.S.R., mycostatin (3,500–4,000 units/mouse, subcutaneously or *per os*) and stilbamidine (1 mg./mouse, intramuscularly) secured 25–30% survival over 2 months in mice experimentally infected with *C. albicans*. A polyvalent yeast vaccine and *Candida* antiserum prevented death in 20–28% of subacute infections.

271. Parfentje (I. A.). **Prenatal protection of Mice by yeast antibiotic (malucidin).** —*Science*, **126**, 3279, p. 928, 1957. [4 refs.]

In this report from the Dept of Microbiology, Yale University, it is stated that malucidin, a complex protein from brewers' and bakers' yeast [*Saccharomyces cerevisiae*], when injected into mice at 1–10 mg./kg. protected them against infection by several fungi including *Candida albicans*.

272. Taber (W. A.) & Vining (L. C.). **Amidomycin, a new antibiotic from a Streptomyces species. Production, isolation, assay, and biological properties.**—*Canad. J. Microbiol.*, 3, 7, pp. 953–967, 1957.

Details are given of an antifungal antibiotic obtained from *Streptomyces* sp. PRL 1642 at the Prairie Regional Laboratory of the National Research Council of Canada, Saskatoon, Saskatchewan, which inhibited the growth of various fungi including *Candida albicans* at 0·6 mg./ml. and *Hormodendrum* [*Phialophora*] *pedrosoi* at 7·0 μg./ml.

273. Alvarez (A.) & Mackinnon (J. E.). **Las características fisiológicas de la mutación 'letal' de Candida albicans.** [The physiological characteristics of the 'lethal' variant of *Candida albicans*.]—*An. Fac. Med. Montevideo*, **42**, 3–4, pp. 121–126, 1957. [English summary.]

At the Instituto de Higiene, Montevideo, Uruguay, the authors studied the biochemical behaviour of the so-called 'lethal' variant of *C. albicans*. This variant was first described by Mackinnon (*J. infect. Dis.*, **66**, pp. 59–77, 1940) and it is characterized by smaller sized colonies which perish rather rapidly and by the absence of pathogenicity for laboratory animals. A comparative study of the 'lethal' variant of *C. albicans* and the 'petite colonie' mutant of *Saccharomyces cerevisiae*, described by Ephrussi *et al.* (*Ann. Inst. Pasteur*, **76**, pp. 351–364, 1949), was made with the normal forms of both species. Manometric studies in a Warburg

apparatus showed that the respiration is nearly abolished in the 'lethal' variant. Fermentation in oxygen is as active as in the absence of oxygen. In the spectrum of the 'lethal' variant the bands of the cytochromes *a* and *b* are absent. The similarities between the 'lethal' variant and the 'petite colonie' mutant of *S. cerevisiae* are evident. In liquid media a yellow-green diffusible pigment is visible. [These results are also summarized in *Science*, **126**, 3270, pp. 399–400, 1957.]

274. Ciferri (R.). **Sistematica, riconoscimento e frequenza delle 'Candidae'.** [The systematics, recognition, and frequency of *Candida* species.] —*Giorn. Mal. infett. parassit.*, **10**, 1, pp. 18–26, 1957.

The author reviews and discusses the historical development of the systematic study of the yeasts, their pathogenicity to man, the frequency of their isolation from human beings, the diagnosis of *C. albicans*, and the connexion between infection by *C.* species and previous treatment with antibacterial antibiotics. In his conclusions, the author states that tricomycin is appreciably more effective against *C. albicans* than nystatin [mycostatin]. Preventive therapy against candidiasis following the use of antibacterial antibiotics has no justification; candidiasis, in the author's experience, occurs in 25% of treatments with antibacterial antibiotics, and of the *C.* spp. isolated, only 25% are *C. albicans*. In the great majority of cases, candidiasis will not occur if generous doses of water-soluble vitamins are administered during or immediately after treatment. Only if *C. albicans* itself be present should recourse be had to antifungal antibiotics.

275. Trimble (J. R.). **The use of a precipitin test to differentiate Candida albicans from Candida stellatoidea.** *J. invest. Derm.*, **28**, 5, pp. 349–357, 1957.

It is reported from Dale University School of Medicine and Dale Hospital, Durham, N.C., that cultures of *C. albicans* and *C. stellatoidea* could be distinguished reliably, rapidly, and specifically by means of the capillary precipitin test (details of which are given). This test did not distinguish *C. tropicalis* from *C. albicans*.

276. Alkiewicz (J.). **Candidiasis der Nägel.** [Candidiasis of the nails.]—*Mykosen*, **1**, 2, pp. 52–58, 7 fig., 1957.

The author presents a résumé of the symptoms of candidiasis unguis (*Candida albicans*), based on observation of 19 cases in housewives (21–63 years of age), at the Dermatologischen Abteilung des Städt. Krankenhauses, Poznan, Poland.

277. Alkiewicz (J.). **Ein Beitrag zur Gewinnung von Impfmaterial bei Candidiasis unguis.** [A method of obtaining inoculum in cases of candidiasis unguis.]—*Mykosen*, **1**, 2, p. 59, 1957.

In the method here described from Poznan [see above], the affected nail is first disinfected by application for 1 min. of a cotton wool pad soaked in 70% alcohol. A sterile piece of cotton 2 cm. long, impregnated with glucose-peptone agar, is then inserted to a depth of about 3 mm. at the nailbase, leaving an end showing, and sealed in by use of an ether solution of collodion. The cotton is removed after 24–48 hr., and short lengths cultured on agar slopes. Positive results were obtained in this way from cases where other methods of isolation had failed.

278. Margolis (J.). **Disseminated coccidioidomycosis.**—*Amer. Rev. Tuberc.*, **75**, 5, pp. 828–832, 4 fig., 1957. [French and Spanish summaries.]

The only symptoms in the case herein reported, with laboratory and autopsy findings, from the Veterans Administration Hospital, Big Spring, Texas, in a 32-year-old negro were pain and stiffness of the neck and back and marked loss of weight. *Coccioides immitis* was isolated from the pus of a lesion on the right 11th rib. Both limbs and the spleen were involved.

279. Brown (W. C.), Hudson (K. E.), & Nisbet (A. A.). **Pulmonary coccidioidomycosis associated with Jensen's disease.**—*Amer. J. Ophthal., N.Y.*, **43**, 6, pp. 965–970, 2 fig., 1957.

A new case, apparently the 3rd to be published, of Jensen's juxtapapillary chorioretinitis associated with pulmonary coccidiomycosis. [*Coccidioides immitis*] in a 19-yr.-old negro is reported from the Brooke Army Hospital, Fort Sam Houston, Texas.

280. Kushner (D. S.), Snappep (I.), Senderi (M.), & McMillen (S.). **Aminostilbamidine—a fungistatic agent.**—*J. invest. Derm.*, **28**, 1, pp. 69–84, 7 fig., 1957.

The inhibitory effect of aminostilbamidine (at 25 μg./ml.) on *Coccidioides immitis in vitro* was similar to that of hydroxystilbamidine. The drug was non-effective in the treatment of 3 cases of coccidioidal meningitis but 2 cases of localized pulmonary infection showed some improvement.

281. Mackinnon (J. E.), Artagaveytia-Allende (R. C.), & García-Zorrón (N.). **Diamidinodifenilamina y coccidioidomicosis experimental.** [Diamidinodiphenylamine and experimental coccidioidomycosis].- *An. Fac. Med. Montevideo*, **42**, 5–6, pp. 196–199, 1957. [English summary.]

The authors assayed the inhibitory effect of an aromatic diamidine, diamidinodiphenylamine (M & B 938) [**3**, No. 284], on the growth of 2 strains of *Coccidioides immitis* in a medium with 20% of horse serum. One strain was completely inhibited at 2–5 μg./ml., the other at 5–10 μg./ml.

All of 14 mice inoculated intravenously with a light suspension of the filamentous form of the 1st culture died between the 13th and the 70th day after the inoculation with generalized coccidioidomycosis. Of 16 mice similarly inoculated but treated immediately after inoculation with a daily dose of 0·4 mg. of the drug administered subcutaneously (2 courses of 30 injections separated by a rest period of 10 days being given) 3 succumbed during the treatment with fatty degeneration of the liver, 1 died on the 20th day with lesions similar to those of the non-treated animals, and 2 died on the 65th and 70th day, respectively, with lesions of the brain. *C. immitis* was recovered from these 6 animals. When the 10 survivors were killed on the 71st day they all had miliary lesions of the lungs which showed no inflammatory aspect. These lesions contained abundant empty spherules of *C. immitis*. Nevertheless cultures were obtained from the lungs or the brain of 4 mice, in the other 6 the infection seems to have been eradicated. The fungus seems to be unaffected when localized in the brain but its sensitivity was evident when localized in the lungs. It seemed also that the treatment was not efficacious from the beginning and that its efficiency is probably conditioned by some immunological phenomenon.

282. Moore (M.). **Cryptococcosis with cutaneous manifestations.**—*J. invest. Derm.*, **28**, 2, pp. 159–182, 6 fig., 1957. [49 refs.]

From Division of Dermatology, School of Medicine, Washington University, St. Louis, Missouri, 4 cases (3 male, 1 female) of cryptococcosis (*Cryptococcus neoformans*) with cutaneous manifestations are described in detail.

The data for these, together with those for 34 other cases recorded in the literature, are tabulated. A 5th new case (in a female) is noted in an addendum.

283. Webster (G. H.) **Pulmonary geotrichiosis.**—*Amer. Rev. Tuberc.*, **76**, 2, pp. 286–290, 4 fig., 1957. [Spanish and French summaries.]

From Nashville, Tennessee, a case of concurrent pulmonary infection and septicaemia caused by *Geotrichum candidum* is reported in a 46-year-old male. Roentgenograms of the lung revealed a thin-walled cavity and infiltration of the left lobe. Oral and intravenous treatment with iodides proved effective. There are believed to be only 2 previous records of *G. candidum* as an agent of blood-poisoning.

284. Mackinnon (J. E.), Sanjines (A.), & Artagaveytia-Allende (R. C.). **Quimioterapia de la blastomicosis sudamericana.** [Chemotherapy of South American blastomycosis].—*An. Fac. Med. Montevideo*, **42**. 5–6. pp. 131–142. 1957. [25 refs. English summary.]

At the Instituto de Higiene, Montevideo, Uruguay, diamidinodiphenylamine (M & B 938) [**3**, No. 281] inhibited the growth of 6 strains of *Paracoccidioides brasiliensis* at 2–5 μg. ml. The inhibitory effect of stilbamidine, hydroxystilbamidine, and aminostilbamidine was very weak. Sulphathiazol and sufadiazine caused a partial inhibition at 20–50 μg. ml. but even 150 μg. ml. did not produce a complete inhibition. The lower conc. coincided with the blood levels which must be reached in order to obtain a therapeutic effect.

Diaminodiphenylsulphone at 50–100 μg. ml. completely inhibited the growth of *P. brasiliensis*. Diphenhidramine anadryl produced a partial inhibition at 20–50 μg. ml. and complete inhibition at 100 and 200 μg. ml. This drug did not potentialize the effect of diamidinodiphenylamine. All the *in vitro* assays were carried out on media with 20% of horse serum.

A total of 4 g. of diamidinodiphenylamine, in daily doses of 150 μg., was administered intravenously to a S. American blastomycosis patient with lesions of the oral cavity and of the lungs. Diphenhidramine was given orally, 50 mg., 1–2 hr. before the diamidine. The treatment was followed for 2 14-day periods separated by a rest period of 17 days. At the end of the treatment the lesions of the oropharynx were cured and 1 month later the exudative lesions of the lungs had largely disappeared.

[For a preliminary account of this work see *Trans. R. Soc. trop. Med. Hyg.*, **51**, 4, pp. 371–372, 1957.]

285. Lapeyssonnie (L.), Séchadry, & Nioguy. **Tumeurs nasales à 'Rhinosporidium'.** [Nasal tumours due to *Rhinosporidium*.]—*Méd. trop.*, **17**. 6. pp. 881–884, 3 fig., 1957.

Clinical and anatomo-pathological observations on 3 cases of infection by *R. seeberi* in young adult natives (1 female) are reported from Pondichéry, India.

286. Lahiri (K. D.). **Rhinosporidiosis.**—*Ind. J. Dermat.*, **3**. 1. pp. 27–28. 4 fig., 1957.

Three cases (1 female) of rhinosporidiosis are briefly described from the Calcutta Medical College. In 2 *Rhinosporidium seeberi* was demonstrated by biopsy. The disease is common in upper and central India where cattle are said to be the source of infection. Males are more commonly affected than females.

287. Kaden (R. H.). **Precipitin studies for the identity of antigens in different species of Sporotrichum.**—*Mycopathologia*. **8**. 4. pp. 260–270. 4 fig., 1957.

A serological study on 5 strains of *Sporotrichum* belonging to 3 [reputed] species, *S. schencki*, *S. beurmanni*, and *S. asteroides*, at Duke University, School of Medicine, Durham, North Carolina, showed their precipitin line formation in agar [cf. **2**, No 1976] to be similar, which is interpreted as demonstrating the antigenic identity of the strains [cf. **1**, No. 1279]. The precipitation lines were most intense at 4° C.

288. Mead (M.) & Ridley (M. F.). **Sporotrichosis and chromoblastomycosis in Queensland.**—*Med. J. Aust.*, **44** (i). 7. pp. 192–197, 1 pl., 4 fig., 1 map, 1957.

Two new cases of sporotrichosis (*Sporotrichum schencki*), in a gardener (lesion on the thigh) and a housewife (forearm), are recorded for Brisbane, Queensland, from Brisbane Hospital, and details of these and the 3 earlier Australian cases [**2**, Nos. 175, 180, 1979; cf. **3**, No. 171] are tabulated.

After citing earlier records of chromoblastomycosis for Australia [**2**, Nos. 57, 58], 23 new cases are tabulated and discussed. *Cladosporium carrionii* was isolated from 9 of the cases, *C.* [*Phialophora*] *pedrosoi* from 1.

289. Gitter (M.) & Austwick (P. K. C.). **The presence of fungi in abomasal ulcers of young calves. A report of seven cases.**—*Vet. Rec.*, **69**, 39, pp. 924–928, 10 fig., 1957.

Of 208 calves examined at the Veterinary Investigation Centre, Weybridge, 7 cases of abomasal ulceration showing fungal hyphae were encountered. The authors were unable to isolate a fungus from the ulcers although *Absidia* spp. and *Mucor pusillus* were identified from abomasal and ruminal contents of 4 cases.

290. Emmons (C. W.). **Histoplasmosis.**—*Publ. Hlth Rep., Wash.*, **72**, 11, pp. 981–988, 1957. [59 refs.]

Histoplasmosis (*Histoplasma capsulatum*) is reviewed under the headings of Darling's 3 cases, 20 years later, status to-day, laboratory confirmation, epidemiological features, and antibiotic therapy.

291. Lehan (P. H.) & Furcolow (M. L.). **Epidemic Histoplasmosis.**—*J. Chron. Dis., St. Louis*, **5**, 4, pp. 489–503, 9 fig., 1 map, 1957. [35 refs.]

This interesting paper from the University of Kansas Medical Centre, Kansas City, gives clinical, roentgenological, and epidemiological details of 41 epidemics, 9 previously unrecorded [cf. **2**, Nos. 304, 531], involving 400 persons. The year, location, number ill, source of infection, presence or absence of *Histoplasma capsulatum* in the soil, and the results of histoplasmin skin tests and serological tests are tabulated. The significance of relapses and chronic manifestations are briefly discussed, methods for reducing the danger of infection from its usual source, the excreta of birds, are suggested, and the need for adequate drug therapy is emphasized.

292. Collins (D. C.). **Histoplasmosis. The present status in the west.**—*Amer. J. Proctol.*, **8**, 3, pp. 220–222, 1957.

Data on the incidence of histoplasmosis (*Histoplasma capsulatum*) in the gastrointestinal tract, based for the most part on material from southern California, are presented in tabular form in connexion with a brief survey of the history and importance of the disease. The percentage of infection among the general population appears to range from 8–12. The most promising treatment known at present consists of 6 courses of quinacrine (atabrine) hydrochloride (1 100 mg. tablet daily at 10-day intervals for adults).

293. Spencer (G. E.) & Gray (J. A. C.). **The problem of histoplasmosis in a military tuberculosis hospital.**—*Amer. Rev. Tuberc.*, **75**, 5, pp. 833–835, 1957.

Attention is drawn to the difficulty of differentiating between histoplasmosis (*Histoplasma capsulatum*) and tuberculosis. Routine fluorography in the armed forces is reported to be disclosing many asymptomatic patients with pulmonary lesions of uncertain origin. A diagnosis of histoplasmosis, based on history of residence in an endemic area, positive skin reaction to histoplasmin, changing or elevated titre in complement-fixation reaction, or isolation of the fungus, was made in 26 of 1,033 cases (2·5%) at the Tuberculosis Service, U.S. Naval Hospital, St. Albans, New York, over a 2-year period; in 2 both illnesses were combined.

294. Baum (G. L.), Schwarz (J.), Slot (W. J. B.), & Straub (M.). **Mucocutaneous histoplasmosis.**—*Arch. Derm. Syph., Chicago*, **76**, 1, pp. 4–8, 6 fig., 1957. [21 refs. *B.H.*, **32**, p. 1053].

From the Jewish Hospital, Cincinnati General Hospital and Kinder Ziekenhuis,

Rotterdam, a comprehensive review of the literature and description of the lesions of histoplasmosis [*Histoplasma capsulatum*] are given. Three cases of mucocutaneous histoplasmosis are presented, treatment in 2 of them being ineffective.

295. Palmer (C. E.), Edwards (Phyllis Q.), & Allfather (W. E.). **Characteristics of skin reactions to coccidioidin and histoplasmin, with evidence of an unidentified source of sensitization.**—*Amer. J. Hyg.*, **66**, 2, pp. 196–213, 8 graphs, 2 maps, 1957.

Information already presented [**3**, No. 121] is recapitulated and amplified. The extent of the area in which *Histoplasma capsulatum* is endemic is regarded as less well-defined than that of *Coccidioides immitis*, primarily because histoplasmin is a much less specific antigen than coccidioidin. The hypothesis that sources of specific sensitivity to histoplasmin exist in the S.W. is based on the occurrence of a substantial frequency (up to 5%) of apparently specific reactions among non-coccidioidin reactors in that area.

It is further concluded, on the basis of the findings herein tabulated and discussed, that another fungus is responsible for some of the histoplasmin sensitivity in certain geographic areas, e.g., parts of Kansas, Oklahoma, Texas, and Louisiana.

[See also Edwards (Phyllis Q.), Histoplasmin testing in different geographical areas, *Lancet, 1957*, 6998, pp. 707–712, 9 fig., 1957; *B.H.*, **33**, p. 39; *V.B.*, **28**, p. 121.]

296. Labzoffsky (N. A.), Fischer (J. B.), & Hamoas (J. J.). **Studies on the antigenic structure of Histoplasma capsulatum.**—*Canad. J. Microbiol.*, **3**, 7, pp. 975–985, 2 fig., 1957.

This further study from the Central Laboratory, Ontario [cf. **2**, No. 1541] gives details of physical and chemical methods used in isolating 8 antigenic fractions from the yeast phase of *H. capsulatum* as determined by complement fixation technique. By the aid of serology, chemical analysis, and ultraviolet absorption spectra at least 7 of the fractions were shown to be antigenically distinct. Using *Coccidioides*, *Blastomyces* and *Histoplasma* antisera, 2 fractions were found to cross react with the 1st, 2 with the 1st and 2nd, and 1 with the 2nd, while the 3 remaining showed specificity by reacting with the 3rd only. Some evidence is given that antibodies for the different fractions appear at different times during immunization and it is suggested that this should be taken into account when choosing the diagnostic antigen.

297. Serviansky (B.) & Schwarz (J.). **Calcified intrathoracic lesions caused by histoplasmosis and tuberculosis.**—*Amer. J. Roentgenol.*, **77**, 6, pp. 1034–1041, 6 fig., 1957.

From their experience at the General and the Jewish Hospitals, Cincinnati, Ohio, the authors conclude that calcified intrathoracic lesions of histoplasmosis (*Histoplasma capsulatum*) [**2**, No. 2448] are generally distinguishable from those due to tuberculosis on the basis of size (6 mm. and upwards) and the presence of 'stippling' (arrangement of the calcifications in groups of 3–10 each measuring 1–5 mm. diam.).

Groups from Cincinnati and New York were chosen for the purpose of comparing an area of high incidence of positive histoplasmin and low tuberculin skin tests with one in which the reverse obtains.

298. Bronson (S. M.) & Schwarz (J.). **Roentgenographic patterns in histoplasmosis.**—*Amer. Rev. Tuberc.*, **76**, 2, pp. 173–194, 13 fig., 1957. [Spanish and French summaries.]

From the General and the Jewish Hospitals, Cincinnati, Ohio, the authors present

28 cases of histoplasmosis (*Histoplasma capsulatum*) to illustrate the varied roentgenographic patterns of the disease [see above].

In young adults primary infection was typically represented by a small peripheral infiltrate, which was either resorbed after a period of months or progressed to calcification, in 1 case after 14 months. Uni- or bilateral hilar lymphadenopathy was uniformly present.

Multiple discrete, disseminated calcifications are characteristic scars of previous histoplasmosis. The roentgenographic appearance of the disease is probably diagnostically specific only in the diffuse miliary, the large intrathoraci foci of calcification, and the 'typical' splenic calcifications. In all other forms the diagnosis depends on supplementary evidence from skin and complement-fixation tests and cultural or microscopic demonstration of the pathogen. An unusual episode in histoplasmosis is massive pleural effusion. In infants and children in the endemic area hepatosplenomegaly is a highly suspicious symptom.

299. Collins (D. C.). **Histoplasmosis and the gastroenterologist.**—*Amer. J. Gastro. Ent.*, **27**, 3, pp. 251–258, 1957 [24 refs.].

Up-to-date information is presented and discussed, including 7 contributions by the author [cf. **2**, No. 2015]. It is emphasized that the 'starry-sky' phenomenon is just as characteristic of histoplasmosis (*Histoplasma capsulatum*) as is the typical tubercle formation in the tissues of human infection by *Mycobacterium tuberculosis*.

300. Milne (H. A.). **The morphology and cytochemistry of H. capsulatum.**—*J. Med. Lab. Tech.*, pp. 1–25, 8 fig., 1957.

Three strains of *Histoplasma capsulatum* in the yeast and mycelial phases were investigated at the Lister Institute, London, by methods which are detailed.

The author believes that there is no capsule though pseudo-encapsulation occurs in 14-day cultures and in 5-day cultures after treatment with histological fixatives and alcohol. The fungus was found to be 'partially Gram positive', 2% staining with Jensen's modification of Gram's method and 27% by MacCullums'. Yeast phase cells were found to be consistently non-acid fast, and to have no doubly-refractile property in polarized light. Granular forms of the fungus were not found. The author agrees with Dowding [cf. **1**, No. 1188] that surface tuberculations of the chlamydospores are budded off.

301. Louria (D. B.), Feder (N.), & Emmons (C. W.). **Amphotericin B in experimental histoplasmosis and cryptococcosis.**—*Antibiot. Ann. 1956–1957*, pp. 870–877, 2 fig., 3 graphs, 1957.

It is reported from U.S. Dept Health, National Institutes of Health, Bethesda, Maryland that amphotericin B is fungistatic *in vitro* against *Histoplasma capsulatum* and *Cryptococcus neoformans* at 0·1–0·9 and 0·03–0·16 μg./ml., respectively. The drug exhibits a highly protective effect against experimental mouse infections when administered intraperitoneally or orally at 15–150 mg./kg./day.

302. Baum (G. L.), Rubel (H.), & Schwarz (J.). **Treatment of experimental histoplasmosis.**—*Antibiot. & Chemother.*, **7**, 9, pp. 477–482, 3 graphs, 1957.

From experimental treatments at the Jewish and the General Hospitals, Cincinnati, Ohio, of hamsters inoculated with *Histoplasma capsulatum*, it was concluded that the combination of sulphadiazine with either amphotericin B or nystatin [mycostatin] gave better results than when each drug was employed singly.

[For another account of this work see *Antibiot. Ann. 1956–1957*, pp. 878–882, 1 graph, 1957.]

303. Hill (G. A.) & Marcus (S.). **Challenge of Macacus iris with Histoplasma capsulatum.**—*Amer. Rev. Tuberc.*, **75**, 5, pp. 849–851, 1957.

At the Dept of Bacteriology, University of Utah, Salt Lake, cynomolgous monkeys (*M. iris*) were inoculated with suspensions of *H. capsulatum* yeast-phase containing $120 \times 10^6$ cells/ml., by both the intratracheal and intracardial routes. Over a 6-month period the 6 animals inoculated by the former method showed no signs of infection either by skin tests or complement fixation. Culture results and examination of body tissues after sacrifice were negative. In 5 monkeys injected intracardially the complement-fixation antibody titre ranged from 1:40 to 1:160, and 3 reacted positively to a skin test with 1:100 histoplasmin 2 months after inoculation. However, culture and tissue examination were again negative for infection.

304. Schwarz (J.), Baum (G. L.), Wang (C. J. K.), Bingham (Eula L.), & Rubel (H.). **Successful infection of Pigeons and Chickens with Histoplasma capsulatum.**—*Mycopathologia*, **8**, 3, pp. 189–193, 1 fig., 1957. [*B.H.*, **33**, p. 233.]

In an investigation at the Jewish and the General Hospitals, Cincinnati, Ohio, of the importance of birds and of temperature in the propagation of *Histoplasma capsulatum* [cf. **2**, Nos. 1259, 1553] the effect of a temperature of 42° C. (the normal body temp. of fowls) on the fungus was studied *in vitro*; faecal matter from chickens and fowls was cultured; and chickens and pigeons were infected intravenously and their organs cultured at autopsy and examined microscopically.

The results indicated that *H. capsulatum* can survive at 42°, though this held only for 1 of 3 strains tested, and for a limited period. Infection of chickens and pigeons was easily effected, for the first time. The birds tested proved to be capable of carrying the fungus for a relatively long period (up to 45 days) and are, therefore, potential sources for the natural contamination of the soil. The faeces were negative for the fungus.

305. Laktionov (A. M.). Исследования по определению качества экспериментальных аллергических средств диагностики эпизоотического лимфангоита. [A survey of the diagnosis of equine epizootic lymphangitis by skin testing.]—Ветеринария [*Veterinaria*], 1, pp. 72–79, 1957. [Abs. from *Referat. Zh. Biol.*, 1957, 16, No. 72272.]

The author reports the results of skin testing on healthy horses, horses and mules with epizootic lymphangitis, and horses with glanders and strangles, with an antigen prepared from a freshly isolated strain of *Cryptococcus* [*Histoplasma farciminosum*]. The results were 99·42% negative for healthy horses and 92·43% positive (1·13% doubtful) for the horses and mules with lymphangitis. All cases of glanders and strangles were negative.

306. **Nomenclature of fungi pathogenic to man and animals. Names recommended for use in Great Britain.**—*Med. Res. Counc. Mem.* 23 (Revised Edition), pp. 15, London, H.M. Stationery Office, 1958. 1*s.* 3*d.*

This revised and enlarged list compiled by the Medical Mycology Committee of the Medical Research Council includes a number of pathogens not indigenous to the British Isles and differs from the 1950 Edition [**1**, No. 1554] in being arranged in 3 sections: a list of fungi and the diseases which they cause, an index to the diseases, and a list of rejected fungus and disease names.

On p. 5 *Actinomyces dermatonomus*, the cause of mycotic dermatitis in sheep, is renamed *Dermatophilus dermatonomus* (Bull) Austwick.

[The nomenclature recommended in this memorandum will be followed as closely as possible in this *Review*.]